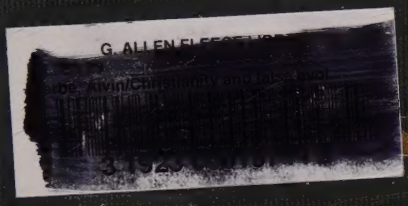

TY
— AND —
FALSE EVOLUTIONISM

A. S. ZERDE

THIS work, presenting the pro and con of evolution, is designed as a source-book for those who wish to go to the bottom of the subject and yet have not the time to consult the authorities.

Evolution, as denoting improvement and progress, as in the art of printing, or as denoting growth and development from a germinal to a mature state, as the oak from the acorn, is a fact; but evolution in the sense of an intrinsic change from the homogeneous to the heterogeneous, from the mineral to the plant, and thence to the amoeba, ape and man, or continuity, absolute continuity ("the backbone of evolution," says Sir Oliver Lodge) is not, according to an ex-President of the British Association for the Advancement of Science, a scientifically ascertained fact, but such must be its character and scope if it is to be a universal principle.

Over against this false evolutionism it is shown that God created distinct realms, within which everything is produced after its kind, as science, indeed, in its confusion of thought, allows.

A distinctive feature of the book is the marshaling of cogent citations from some three hundred authorities for the various propositions discussed.

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Christianity and false
evolutionism

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CHRISTIANITY

AND

FALSE EVOLUTIONISM

BY

ALVIN SYLVESTER ZERBE, PH.D., D.D.

Professor Emeritus, Central Theological Seminary,
Dayton, Ohio

CENTRAL PUBLISHING HOUSE
CLEVELAND, OHIO

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I have known three generations of Darwins—*atheists all.* —
THOMAS CARLYLE.

The scientific doctrine of one omnipresent, eternal Energy is fundamentally inconsistent with the dualistic conception which sets spirit over against matter, good over against evil, man's wickedness against God's righteousness, and Satan against Christ.
CHARLES W. ELIOT, Ex-President of Harvard University.

And God said, Let the earth put forth grass, herbs yielding seed, and fruit-trees bearing fruit *after their kind*....And God created the great sea-monsters, and every living creature that moveth, wherewith the waters swarmed, *after their kind*, and every winged bird *after its kind*....And God made the beasts of the earth *after their kind*, and the cattle *after their kind*, and every creeping thing that creepeth upon the ground *after its kind.*
THE BOOK OF GENESIS, I: 11, 21, 25.

The chief characteristics of every living thing are unalterably fixed by heredity. Men do not gather grapes of thorns nor figs of thistles. Every living thing produces offspring *after its kind*.... Men, horses, cattle,....all of the billion known species of animals and plants differ from one another because of inherited peculiarities, because they have come from *different kinds* of germ cells.... Weismann showed that acquired characters are not transmitted from generation to generation.
PROFESSOR E. G. CONKLIN, Princeton University.

If acquired characters are not transmitted, there are no new species; if no new species, no evolution——(in that case) you cut my throat. CHARLES DARWIN.

Ou bien il y a eu transmission héréditaire des caractères acquis, ou bien il n'y a pas eu d' évolution du tout.
DELAGE ET DOLDSMITH, Les Théories de l' Evolution.

God created man in his own image, in the image of God created he him. GENESIS, I: 27.

We have reached the proof that what is most distinctively meant by Man is not, and cannot be, the result of evolution. Man, the spirit, man, the real mind, is not the offspring of Nature.
DR. G. H. HOWISON, University of California.

All is again in the melting-pot....Is evolution, then, not a scientifically established fact? No, it is not....It is an act of faith.
DR. D. H. SCOTT, Presidential Address,
British Association for the Advancement of Science.

False evolutionism has been imposed upon an unsuspecting public by the jugglery of skillful sophists.

PREFACE

In the interest of the reader's economy of time, the plan and principles of this book are here briefly outlined. By the first half of the title is meant the system of religion accepted by the Greek Catholic, the Roman Catholic and the Protestant Churches represented in the Federal Council. The second half implies that there is such a process as evolution and a consequent doctrine or philosophy thereof, or evolutionism. With evolution so far as found to be a fact, there is no issue, but only with a fallacious explanation, a false evolutionism. As long as science remained within what Sir William Herschel called its legitimate sphere of the collection and orderly arrangement of facts, there was scarcely any conflict between Christianity and science; but science has transcended its domain and undertaken to dictate terms to psychology, ethics, religion, theology, and in fact to all human activities. Evolution, originally a harmless word, denoting growth, progress, development, has imperceptibly come to denote the key to the mysteries of matter, force and life, the organizing and controlling principle in the sciences, the panacea for the ills of mankind, and a religion of science destined, it is alleged, to supplant the religion founded by Jesus Christ. Naturally such a scheme clashes with practically all Christian Churches on the question of God, the origin of the universe, the natural and the supernatural, reason and revelation and above all, creationism and evolutionism. The antithesis is pointed out in Chapter I.

Creationism is described at some length in Chapter II, the apology being that the first chapter of Genesis has in recent times been more ridiculed as of no value than seriously studied as the most scientifically accurate (within a brief compass) and philosophically defensible cosmogony in all literature. The Biblical cosmogony turns on the creation of three realms. In the Hebrew text, the word translated "created" occurs three times, namely verses 1, 21, 27, and denotes respectively the origination of the physical universe, life and spirit. This is not an accident, but profoundly significant. The three realms are absolutely distinct. Matter-force never produces life or spirit; the inorganic never becomes the organic. All the electrons in the universe could not make a blade of grass. Life is a creation of God. The third realm is that

of mind, spirit, personality, of which God is the head and under which man as soul-spirit, comes. Man is created soul-spirit. The animal has merely the life-principle, whereas man has in addition the spirit principle and entity, which the animal lacks. Within these creations, however, the Biblical cosmogony recognizes development or evolution in the old and legitimate sense, as "let the earth put forth grass, herbs yielding seed, etc.," "let the waters swarm, etc." Creation in the true sense is one thing, evolution in the false sense, another.[1]

Over against creationism is the modern doctrine of evolution, or evolutionism as a system. In the use of the term evolution, we discern some meanings that are legitimate, others that are merely inaccuracies of expression, and others that are misleading and positively erroneous. Evolution according to science denotes continuity, uniformity, invariability of natural laws, an entirely intrinsic and naturalistic process, according to certain laws, by means of resident forces, a change of one kind into another kind, a passage of the homogeneous into the heterogeneous, in short evolution is affirmed to be creation and creation evolution. Whether and to what extent Deity had or has any part in the process are open questions. The various shades of evolutionism are described in Chapter III, but an evaluation of them is reserved for the remainder of the book.

In Chapter IV the chief lines of proof for evolution from comparative anatomy, embroyology, paleontology, and genetics are reviewed at some length as an aid to the general reader who may have become "rusty" in his science and yet has not convenient access to the sources. As the evidence from geology has always been regarded as decisive for evolution as over against creation, no apology is needed for a summary of the facts of the geological eras and periods in their bearing on the subject.[2] In this chapter, too, are discussed the most recent discoveries, as the Mendelian Law of the Non-Formation of new species and Weismann's Law of

[1] By reference to Chart I, Cosmogony of Genesis I, certain facts are seen to stand out prominently: creation, movement, light, worlds formed, correspondence of third Day to Azoic Age of geology, plant life, water animals, reptiles, birds, (paleozoic and mesozoic of geology) living creatures after their kind (cenozoic or tertiary), creation of rational, self-determining man (quaternary of geology). All this is scientifically accurate and philosophically profound.

[2] Chart II, Geological Eras and Periods, which exhibits the sequence of plant and animal life from the earliest to the latest times and may be compared with Chart I, reveals also a number of strange breaks, gaps and discontinuities, which prompt one to ask Where the Evolution?

the Non-Transmission of acquired characters, each of which, in the language of Darwin, "cuts the throat" of evolutionism.

Chapter V, The Origin, Antiquity and Nature of Man, is devoted almost entirely to an examination of a new argument for the evolution of man, based on skulls of various sorts. After Darwin had claimed that all forms of life were derived from a few prototypes, it was an easy transition to the view that man, body and soul, is the resultant of an evolutionary process. There were no facts in support of the hypothesis; it was a bold conjecture required to render the doctrine of evolution complete and symmetrical. But in recent years fossil remains have been unearthed which some scientists regard as those of ape-men, semi-human beings, supplying the desired "missing link." It is an exceedingly subtle argument, not easily handled. On the basis of fragments of arms, teeth, jaws, skulls, found in various parts of the world and contained in a half bushel measure, enterprising scientists, with a vivid imagination, have "restored" and placed on exhibition our supposed ancestors, living anywhere from 100,000 to 500,000 years ago. We scrutinize the fascinating romance, seeking to discover grains of truth in bushels of chaff. Here again, we resort to a graphic representation of early man, real or fictitious,[3] It will be seen that the various "reconstructed" men and races are after all, not ape-men, half human, but, according to experts in this line, real men endowed with personality and self-consciousness, albeit in a low state of culture; and so the supposed over-whelming argument for man's descent from the ape and the amoeba fails. Despite the almost daily newspaper reports of the finding of "missing links" in America, their history may be written in three words: "There are none." See pages 163-5.

In Chapter VI, Are Christianity and Evolutionism Reconcilable? it is shown that the mysteries of matter, force, motion, life, design in the universe, freedom of will, and the origin of man, are best accounted for on the basis, not of evolution, but of an original creation. In the voluminous literature on evolution from the side of science, much, indeed everything is ascribed to evolution, nothing to a primitive creation; and one searches in vain, even among professed Christian evolutionists, for a clear-cut statement of God's share in the origin and development of the universe. The usual

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[3] See Chart III, Human Culture Stages, which is designed to exhibit the scientific view of the ascent of man from a hypothetical ancestor, an amoeba, man-ape, ape up to modern man, and the successive culture stages.

camouflage, that science deals with facts, not theories, is offset by the profound observation of Kant, that one cannot know how a caterpillar originated without knowing how the universe originated. It is ultimately a question of origins, not of development or evolution. Science in failing to account for the initial stages, fails all along the line, as indeed the latest germplasm theory indicates. Not theistic evolutionism (a contradiction in terms), but theistic creationism is the key to the situation. Things were created "after their kind," not evolved from other and heterogeneous kinds. And so the law of continuity ("the backbone of evolution" according to Sir Oliver Lodge) is broken. The only term fittingly characterizing the current scientific trend is pseudo or false evolutionism, with which the Christianity of Christ and of the Church is in irreconcilable conflict. Either creationism and cosmos, or evolutionism and chaos.

The contention of science that its method is far superior to that of theology and so must lead to safer conclusions is only half true. As a matter of fact it starts with a dozen metaphysical concepts, such as self, force, law, identity and others, no less than philosophy and theology. Its induction must in the end fall back on deduction in formulating universal laws, as seen in such a simple proposition as diamonds are combustible, since not all diamonds in the world have been examined. Under one view science prejudges the whole question of evolution by an acceptance of certain assumptions which may or may not be true. Among these are the absolute invariability of natural law, the conservation of matter and force, the eternity of the universe and the denial of a supernatural order. It is pointed out in the Excursus on Scientific Faith, or Assumptions, Presuppositions and Postulates of Science (which on account of the fundamental issues involved ought strictly to have preceded the whole inquiry) that, as scientists admit, the traditional theory of the elements, of the conservation of force, and the permanence of the physical universe, must be radically modified, or, as says Professor Jevons, University College, London: "Before a rigorous logical scrutiny, the *Reign of Law will prove to be an unverified hypothesis*, the uniformity of Nature an ambiguous expression, the certainty of our scientific inferences to a great extent a *delusion*."

In 1862, the writer, a youth of fifteen years, read with avidity Darwin's "Origin of Species" and others of his works as they appeared and regards very highly the great discoveries of science but confesses skepticism when science enters the field of philosophy and

of religion, even as science has about given up the specifically Darwinian tenets.

It remains to be added that with the view of accuracy on a hotly contested subject, and of according due credit to others, the source of borrowed material is indicated, brief quotations excepted.

A. S. Z.

May, 1925.

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CHAPTER I

CHRISTIAN AND NON-CHRISTIAN WORLD-VIEWS.

Christianity, though primarily not a system of science or of philosophy, but a religion, indeed the supreme religion, must necessarily harmonize with and supply the key to the facts of science and the processes of sound reason. It has, accordingly, a world-view, is in short the profoundest of world-views, as seen already in the first chapter of Scripture, and stands or falls with its doctrine of a personal, holy, self-revealing God, at once Creator and Preserver of the physical and the spiritual universe.

A. Some Great World-Problems.

The question, What the world? Whence the world? Why the world? What is God? What is man? What his destiny? What is knowledge? What is truth? are at once questions of every-day life and of science, philosophy and theology. To the question, What the world? one may answer, it is matter and mechanism. Man, as a part of it, is chiefly matter and machine. He eats, drinks, and to-morrow he dies like a plant or animal. That is the end of him. Such a view we call materialistic and atheistic. To the question, Whence the world? one may answer; it had no beginning, it always was, is a self-running, self-oiling, self-repairing machine through all eternity, just as a steam-engine may be conceived as repairing itself. To the question, Why the world? one may answer; there is no ascertainable reason for its existence, it is an ultimate, and since an ultimate is unanalysable, is transcendental, outside our territory, and there being, it is alleged, no unchallenged proof of a God as Creator, we must ever write *ignoramus et ignorabimus*.

Again, a boy asks: Father, who made me, Why am I here? The father, if an old-time Christian, may answer, God created you for a useful life here and an eternity of bliss hereafter. If, however, the father has been fed up on current literature, he may say: My son, the Goddess Evolution made from lifeless force and matter a little creature called an amoeba, which changed itself into other and higher creatures and after millions of years actually became an ape and then a human being. Why you and the rest of us are here and what will become of us at death, is unknown, for Evolution has not told us.

Or, take the question of knowledge. Can we know anything at all? Can we know the world? Ourselves? God? Is there such a thing as truth? One says that we have no knowledge except of the outer world through the senses; another says, we can have no knowledge except of the inner world, the world of mind. The former emphasizes man's environment, the latter his mental power. Another affirms that man is the measure of things, that there is no absolute standard; what is true for one may be false for another; nothing is static or permanent, everything is in constant flux and flow; the world, knowledge, truth, man, even God (if there be one), are in process of becoming. Such is pragmatism, evolutionism, naturalism. Then comes the skeptic, who tells us that what we call knowledge is a fleeting play of mental states, a panorama of subjective pictures with no reality back of them. The arch skeptic, David Hume writes despairingly: "We have no choice left but between a false reason and none at all. . . If I must be a fool, as all those who reason or believe anything *certainly* are, my follies shall at least be natural and agreeable."

Others say: Our senses, though not perfect, yield reliable data; the mind, though erratic at times, is capable of reaching essential truth; the spiritual principle in man at his best is one with the spiritual principle in

the world rightly apprehended; there is a possibility of knowledge, truth, correct principles; the universe, even as imperfectly known, exhibits in its design and harmony, reasonableness and rationality of a high order, presumably as the creation of a wise and perfect Being.

Such are some of the questions asked by humble laborers, students, scientists, philosophers and theologians, and such some of the contradictory answers. What the man of average intelligence wants to know and vainly imagines can be answered off-hand in a few minutes, has baffled the wisest heads and never so much as to-day. The far greater antiquity of the human race than was formerly supposed, the unearthing of an immense mass of Babylonian and other literature and above all, the wonderful discoveries in all fields of science have necessitated a re-examination of all the old truths and principles.

The basic question, therefore, is, Does Christianity, as a system, involve a view of God, the universe, nature and man, which is adequate to meet the intellectual and religious crises of the day and in short solve the riddles confronting us on all sides? In other words, is God's plan in the creation of the universe and of man with the view to to the establishment of a perfect moral fellowship or Kingdom of God among men, fundamental, all-comprehensive and the key to the world-problems in contrast with evolutionism, or the doctrine of evolution, whatever that may be?

There is only one answer: Unless the commonly accepted Christian view be essentially correct, Christianity as the final, supreme, and only true religion and world-view, is doomed. It may be a social club, a gettogether society, or an ethnic religion, but it will be shorn of its strength as a supernatural revelation.

B. Christianity as a Religion.

Christianity, briefly defined, is the religion founded by Christ and exhibited in the New Testament. Whether we distinguish between the theology of Christ and that of his Apostles, between the Synoptic Gospels and the Gospel of John, between the Pauline and the Petrine theology, matters little, for all centers practically in the same redemptive plan. Hundreds of volumes have been written on the Essence, the Essentials, the Fundamentals of Christianity, but for our purpose it suffices to define Christianity as the religion characterized by the following doctrines: the Bible as a special revelation inspired of God, God as the Infinite, Eternal and Absolute Person, the deity of Christ, and of the Holy Spirit, the divine creation of the universe and of man in God's image, the sinfulness of man, Christ's incarnation, atoning death and resurrection, justification through faith, the work of the Holy Spirit in regeneration and sanctification, the obligation of holy living, the resurrection of the body and life eternal in Christ.[1]

The above is substantially the belief of the three great divisions of the Christian Church, embracing some 560,000,000 souls and including the Greek Catholic, the Roman Catholic and the Protestant denominations represented in the Federal Council.[2]

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[1]It ought to be noted that there always has been and is to-day dissent in many quarters from the commonly accepted Christian tenets. In every denomination are men (number not exactly known) who accept only in part or reject altogether one or another of the traditional doctrines; their views, however, being largely negative and rarely forming a well-rounded system, may be dismissed here, but will receive attention as we proceed.

[2]Christianity may be defined negatively by an elimination of the cults and religions ineligible to membership in the Federal Council, as Bahaism, Brahmanism, Buddhism, Christian Science, Communistic Societies, Confucianism, Ethical Culture Society, False Mysticism, Judaism (Jews), Mental Healing, Metaphysical Healing, Mohammedanism, Mormonism, New Thought, Occultism, Positivist Church, Rosicrucianism, Russelism, Swedenborgianism, Spiritism, Theosophy, Unitarianism, Universalism, and Yogaism.

It is a significant fact that, whatever other characteristics a religion may have, there are always five questions which we ask first of all and which are fundamental. These are the views and teaching regarding God, the Universe, Man, Sin, Redemption. The answer to these determines everything else.

1. *God.* According to the evangelical view God is the Supreme and Absolute Personality, having all the ethical attributes of holiness, justice, love, etc., in perfection, as well as the metaphysical attributes of self-existence, omniscience, omnipotence, etc., the Creator and Upholder of all persons and things.

2. *The Universe.* God is not to be identified with the universe; he is dynamically in nature, yet transcendently prior to and above it.[3]

3. *Man.* Man on the other hand is created in God's image and though highly endowed, is not God, nor capable of becoming God. God is infinite, man is finite. God and man belong to two different orders or realms.

4. *Sin.* According to Scripture sin is a transgression against God in state, disposition or act. Man by nature is under the dominion of sin and cannot save himself. He needs a divine-human Redeemer. Every autosoteric or self-serve scheme of redemption is un-Biblical.

5. *Redemption.* According to the Bible only God's grace mediated through faith in Christ's atonement can deliver man from the bondage and corruption of sin.

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[3]Professor W. James, of Harvard writes: "There are systems of thought which the world usually calls religious, and yet which do not positively assume a God. Buddhism is in this case. Popularly of course, the Buddha himself stands in place of God; but in strictness the Buddhistic system is atheistic. Modern transcendental Idealism, Emersonianism, for instance, also seems to let God evaporate into abstract Ideality. Not a deity **in concreto,** not a superhuman person, but immanent divinity in things, the essentially spiritual structure of the universe, is the object of the transcendental cult" (**Varieties of Religious Experience,** p. 31). It will be seen that not a little of the current evolutionism is of this sort, an "immanent divinity in things," an "evaporation" of God.

The man who in the interest of the New Gospel of Science and Evolution attempts to reconstruct Christianity from the ground up will probably have the experience of the celebrated Dr. Horace Bushnell, who, twenty years after an attempt at theological reconsturction, admitted his failure, humbly confessing: "I had not sufficiently considered the difficulty of the problem." Rudolph Eucken, the German philosopher, in his book *"Can We still be Christians?"* answers the question in the affirmative, but he eliminates all the characteristically Christian doctrines, as special revelation, the deity of Christ, atonement in the Christian sense, miracles, the resurrection and ascension of Christ. Jesus is a "fontal personality," but not the God-Man, in short, "Hamlet" with Hamlet omitted.

C. Christianity as a World-View.

Christianity invites and encourages the deepest thought and the most critical investigation, but always in conformity with the true canons of logic. Hence in defense of its principles and in the refutation of error, it is forced to examine the assumptions and postulates of science, as to matter, force, ether, time, space, cause, purpose, life, mind, spirit, the origin of the physical universe, the conservation of matter and force, the absolute invariability of natural law and the denial of a supernatural order, and to evaluate their bearing on the world-view deduced from Scripture. Christianity is the true *Weltanschauung*.

This stupendous task has taxed the powers of the greatest thinkers; and with the prodigious accumulation of scientific data in recent years the problem of constructing a comprehensive world-view is tenfold more difficult than ever. Enough material, however, is available to warrant the conclusion that Christianity and science,

though still wide apart in some respects, are nearer together than sometimes supposed.

(A) PERSONALISM AND IMPERSONALISM.

Fundamentally, all world-views are reducible to two: Personalism and Impersonalism. According to the former there is a personal God who in infinite wisdom created in time the realms of matter, life and finite spirit. According to the latter there is no personal God in the Christian sense, but merely an impersonal something, variously designated as force, will, energy, or plastic power of some unknown character; everything is alleged to happen according to natural law, and that too, without a lawgiver. It is generally allowed that this mechanical theory of the universe has had its day and must give place to some form of spiritualism or personalism. Eucken says: "The direct denial of the personality of God aims at a denial of a superiority over against the world-process, aims at bringing about a pantheistic melting of the absolute life of the world." The admission of a personal God involves far-reaching consequences. From the analogy of human personality, we must suppose that God has plans and purposes and employs means to realize them. By causes primary and secondary, he attains his end in the worlds of matter and mind.

(B) THE UNIVERSE IN CHRISTIAN PHILOSOPHY.

According to Scripture, the universe, as known to us, includes three realms: matter-force, life, spirit.

First. There is the realm of matter-force. Matter as such can do nothing; it is dead. It is the force resident in matter which is active. But such force is not life. The chasm between force and life has not been bridged, and Alfred Russel Wallace affirms that it is unbridgable; and herein he is sustained by the latest investigations, for, though one hears every day that such

and such a professor has produced life, the reports are fictitious. Force never produces life. The inorganic never becomes the organic. All the atoms, ions, and electrons in the universe could not originate a single grain of wheat or the tiniest blade of grass.

Second. There is life in the world. The ancients called it the soul of the world *(anima mundi)*. By some mysterious power a seed sown in the earth germinates and grows. The real seed is the invisible life-force or principle whose outer enswathment only is visible (Genesis 2:5). What life is, science does not know and cannot produce. According to Scripture it is a creation of God.

Third. The third realm is that of spirit, or personality, of which God is the head and under which man comes. Man is created soul-spirit. Biblically the difference between man and the animal is greater than that between the plant and the animal. The reason is obvious. The latter has merely the life-principle, whereas man has in addition the spirit-principle and entity, which the animal lacks. These three realms or worlds are distinct. Force never becomes life, and animal-life in and by itself never becomes soul-spirit. These points will become clearer as we proceed.

(C) FOUR DUALISMS.

Over against the preceding theological and philosophical tenets, there have always existed and exist to-day in an accentuated form, directly antagonistic world-views, which may be conveniently grouped under the head of four dualisms.

1. *The Natural and the Supernatural.*

An underlying question has always been: Is there a realm of the supernatural above the natural or every-day

order of things? Is there a power or being supramundane, the ground and source of all things, or is everything to be conceived as on the dead level of nature? All forms of infidelity, materialism, atheism, acosmism, theosophy and a dozen other non-Christian schemes have their tap-root in a denial of the supernatural in the Christian sense. The contemporaneous form of the dualism is not exactly the same as whether there be a God, for it embraces a broader range of subjects than formerly. The working principle of science is that everything in the physical universe takes place according to natural law, that supernatural intervention even in great crises or turning-points is out of the question. Not a little of the confusion of thought in religion and science to-day arises from the failure to distinguish sharply between the natural and the supernatural.[4]

2. *The Natural and the Spiritual.*

Is man merely a physical organism, with sensation, perception and mental powers akin to, but somewhat above those of the brute; or is he created in the image of God with the gift of self-consciousness and self-determination and held accountable, as an ape is not, for his acts and thoughts? Can mind be evolved from force and matter, and man from the brute? Has man a moral sense, spiritual perception; or is he merely a nature-being? This dualism has always existed, but it exists to-day with profounder implications than ever before. At

[4]Dr. James Orr states the problem concisely: "The question is not about isolated miracles, but about the whole conception of Christianity—what it is, and whether the supernatural does not enter into the very essence of it It is the general question of a supernatural or non-supernatural conception of the universe. Is there a Supernatural Being—God? Is there a supernatural government of the world? Is there a supernatural relation of God to man, so that God and man have communion with one another? Is there a supernatural Revelation? Has that Revelation culminated in a supernatural person—Christ? Is there a supernatural work in the souls of men? Is there a supernatural Redemption?" **(The Christian View of God and the World, p. 11).**

present it emerges under new conditions and as a result of various claims of science and psychology (functional, behavioristic, and muscle-twitch).

3. *Reason and Revelation.*

Another dualism, arising already in the ancient world, but intensified by the philosophies of the last three centuries, is that between reason and revelation, or philosophy and faith. Both have their legitimate sphere and serve a useful purpose. Both pertain, but from different starting-points, to the same question—God, man, sin, redemption. Christianity has ever been compelled to discuss this dualism, for since the day of Greek philosophy, and especially in the early Christian centuries, men have boldly proclaimed the superiority of reason over faith and revelation. Strictly, however, there is no real dualism here, for, as Seth pointed out *(Hegelianism and Personality)* faith is antithetic, not to reason, but to doubt; faith is the highest reason, absolute rationality, religious faith having its analogue in the *apriori truths,* the ultimates, with which science and philosophy start. It will be seen that scientists, as a class, allow little weight to Scripture as a revelation and brush aside with contempt the Biblical cosmogony, anthropology and psychology.

4. *Creationism and Evolutionism.*

A fourth dualism, partly growing out of the preceding, but due chiefly to remarkable discoveries in science, is that between creationism and evolutionism; or the doctrine on the one hand that God created the universe of matter, force, plant and animal life and finite personality, each fundamentally distinct from the other, and the doctrine on the other hand, that in the physical universe (whether created by God or not) the law of absolute continuity from the lowest to the highest is operative and the controlling principle in the ascent from the inorganic to

the organic, from force to life, from life to mind. "The science of evolution is the science of creation," says E. D. Cope, and even Professor W. Patten employs such loose language as the following: "There can be no creation without evolution, and no evolution without creation. [The second of these propositions we accept; the first we challenge.] The ceaseless flow of creative services is evolution, and evolution is serial creation" [too vague] (*The Grand Strategy of Evolution,* p. 29). Others say that to speak of creation as evolution and evolution as creation is like speaking of a round square or wooden iron.

D. Two Rival World Views.

If the foregoing analysis of the essence of Christianity and of the trend of science is even approximately correct, it is evident that we are confronted to-day by two rival, if not antagonistic, theories of the universe and of man. The reader understands the commonly accepted Christian view-point. Wherein are the new views revolutionary? According to science the distinction between the organic and the inorganic must in their genesis be abandoned; the inorganic is the organic undeveloped, the organic is the inorganic in full bloom. Likewise there must be abandoned the distinction between matter, force, mind, spirit, good and bad, God and force, Christ and Satan, for they are ultimately one. A recent English writer (Hugh Elliott, at once materialist and idealist) holds that according to accepted postulates of science it is impossible to prove that there is spirit at all, everything being at bottom mere force and shaped by mere force in an iron-clad and closed system.

Thoughtless and half-educated men and women are wont to make sport of the Biblical doctrine of foreordination, providence and foreknowledge, determined "according to the good pleasure of his (God's) will" Eph. 1:

5). But here is a determinism, a fatalism, without a conscious, self-determining, world-determining agent, alleged on the one hand to be "a fortuitous concourse of atoms" and on the other so logically concatenated that if one had the requisite mathematical knowledge and skill he could predict every future event in the universe and on this globe, even to foretelling the date, progress and outcome of the great World-War, as well as of all minor events.

The scheme is all-inclusive and absolute in its premises and brushes away with one tremendous sweep all hitherto accepted canons of truth and logic.

(A) NOT MERE ACADEMIC QUIBBLING.

Let not the reader solace himself with the reflection that the above view is merely an academic thesis without practical significance or acceptance. Listen to its clear and icy formulation by Ex-President Eliot of Harvard: "The scientific doctrine of one omnipresent, eternal Energy is fundamentally and completely inconsistent with the dualistic conception which sets spirit over against matter, good over against evil, man's wickedness against God's righteousness, and Satan against Christ" *(Religion of the Future,* p. 18). The student of philosophy is astounded at this bold identity-hypothesis of spirit and matter, good and evil, Christ and Satan. Not even the arch-pantheist Spinoza obliterated the distinction between matter and mind, right and wrong. Possibly many a scientist and psychologist would shrink from such bold avowals; but, if the premises are correct, the conclusions are legitimate.

As Eliot may be supposed to be a fair representative of the anti-traditional view, we cite a few more of his statements. He writes: "The religion of the future will have in it nothing supernatural." Here we have the whole system in a nutshell. Everything is reduced to

one dead level of natural causation, with no supreme person to originate the laws or direct the movement to a definite goal. All is a chance play of force and atoms. That such is his meaning is clear from the affirmation: "If God is thoroughly immanent in the entire creation, there can be no secondary causes in either the natural or the spiritual universe." The denial of secondary causes is characteristic of the new pantheism or monism, despite the fact that man is clearly capable of initiating a new line of action. If man is a free agent, much more God. If Eliot conceded secondary causes, he would be forced to allow that God works both immediately and mediately. The Ex-President of Harvard for reasons best known to himself retains the word God, but his God is a mere Energy, a "finite" God (no God at all) who never intervenes in the world-history by miracle, prophecy or incarnation, but has been politely escorted to the frontiers of the universe.

(B) DOGMATISM OF SCIENCE.

Scientists, evolutionistic theological professors, and superficially educated preachers speak with lordly disdain of former theological dogmatism. But we search in vain for any dogmatism of the past or the present half as fallacious, supercilious, contemptuous and insulting as the dogmatism and cocksureness of the average scientist, embryonic professor of embryology (who has been on this planet probably thirty years and 'knows it all,' though even an Aristotle attempted no original work until the age of forty-five), the youthful newspaper scribe, the "kid" just fresh from college and the whole crew of blatant materialists, infidels and atheists.

This new world-view is rigidly applied to, and gradually carried out in every known science, in every department of study in the colleges of the land, in nine-tenths of the high-school and college text-books and in

some theological seminaries—but only to the extent that conditions are favorable for the promulgation of the revolutionary scheme. In this way not only the factual sciences (those dealing primarily with facts), but also the normative sciences (those laying down principles, as ethics, logic, comparative religion, philosophy of religion and systematic theology) are reconstructed from the ground up along the line of the evolutionistic formulae. We accordingly have a psychology without the "psyche," history without the personal factor, or human freedom, ethics without a norm or standard, and Christianity without a divine-human Redeemer, *alias* a mere man descended from an ape or a hypothetical ape-man.

Naturally for prudential reasons and through lack of time to inoculate the public with the infidel virus, the old views are at first quietly allowed to rest, then adroitly challenged, then openly contested and finally defiantly denied.

(c) IS RECONCILIATION POSSIBLE?

Such is the situation which confronts the Christian world to-day. Are the discrepant views reconcilable? To what extent do they proceed from radically different conceptions of the relation of God to the universe and to man? Can we be transferred from the old to the new position by an adroit marshalling of facts, half-truths and conjectures, by an array of "if," "probably," "we may suppose" (used by Darwin over four hundred times in one of his books), and similar expressions, and by the charming literary style, but often weak logic, of the foremost scientists? Are the old views wholly false, the new ones wholly true? Is a middle ground possible?

Seeing the havoc caused by the naturalistic and practically atheistic world-views of extremists, some of the more conservative and philosophic scientists have lately sounded a retreat from manifestly untenable posi-

tions and sought to occupy at least theistic, if not Christian theistic ground. Their various solutions will be considered in later connections, but without expressing a final opinion here, we may say provisionally, that a number of the more candid and serious-minded scientists are disposed to see a modicum of truth in the Biblical representation, but that not a few waver between a pantheistic identification of God with the universe and the old deistic idea that God indeed created the universe but then withheld all further interest and control (the most stupid of all views).

We proceed to present the evidence for and against the rival world-views.

CHAPTER II

CREATIONISM; OR THE BIBLICAL NARRATIVE OF THE ORIGIN OF THE PHYSICAL UNIVERSE.

I

TO WHAT END DID GOD CREATE THE PHYSICAL UNIVERSE?

Why did God create the universe of matter and mind? What are essential ideas of creation? Is creation a temporal or eternal process? Is there any creation at all? Is not everything an evolution? What is the relation of the Scriptural doctrine of creation to development and evolution? To what extent is the creation plan in Genesis I found in the rest of Scripture? Whence the matter in the creation narratives? Does science accept, reject or supplement the Biblical cosmogony?[1]

Such are some of the questions that naturally arise in any discussion of Christianity and Evolutionism. We aim to review some of these.

A. The Purpose of the Creation.

The question, what God did before the creation of the physical universe brings up the prior question of the end and purpose of the creation. The ends are general and special. Such Scripture as, "Bless Jehovah, all ye his works, in all places of his dominion" (Ps. 103: 22); "For of him, and through him and unto him are all things"

[1]Though in theological literature the word creationism is employed to designate a theory of the origin of the soul as over against traducianism, it has lately come into use to denote the Biblical account of creation. According to Murray's New English Dictionary, "Creationism is the theory which attributes the origin of matter, the different species of plants, animals, etc., to special creation." "Creationism, the doctrine that matter and all things were created, substantially as they now exist, by the fiat of an omnipotent Creator, and not gradually evolved, or developed; opposed to evolutionism" (Cent. Dictionary).

(Rom. 11:36); "Jehovah hath made all things for its own end; yea, even the wicked for the day of evil" (Prov. 16:4), denote that the chief and ultimate end for which all things were created, especially angels and men, is the glory and praise of God. If God would be praised, it was necessary that he should create rational intelligences, capable of knowing him; and that, knowing him, they might honor him. It was also fitting that he should create things destitute of reason, that they might furnish matter for praise. "The heavens declare the glory of God and the firmament showeth his handiwork" (Ps. 19:1). He created the world and man that he might gather to himself out of the whole human race an everlasting Church or Kingdom of God, which might know and praise him as Creator.[2]

God was not arbitrarily necessitated to create the universe, (as held in Hegelian and other systems, according to which God needed to create in order to attain perfect self-consciousness), for the three persons of the Godhead were in their communion and fellowship eternally complete, self-contained and independent of anything outside themselves. Creation, whether of angels, men or things, added nothing to the essential wealth or worthiness of God. Nor can the creature be the end of the creation, for this would imply that God is dependent on the creature. While it is true that not even the happiness of the creature is the supreme end of the creation, it is also true that the highest interests and happiness of the creature are attained through God's sovereign purpose and rule.[3]

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[2]"The Bible, in its account of creation, is concerned mainly with the moving principle while science concerns itself with methods and processes...The first chapter of Genesis—a narrative about which the present generation has done more laughing than thinking." **(Dawson, Nineteenth Century Evolution and After, pp. 1, 93).**

[3]Such is the essential view-point of all authorities. "The great end of God is the manifestation of his fulness, wisdom and power, in a created

B. What is Creation?

Creation may be defined as "that free act of the triune God by which in the beginning for his own glory he made, without the use of preexisting materials, the whole visible and invisible universe" (A. H. Strong, *Systematic Theology*, Final Edition, p. 371). "As the creation of the universe, and particularly of the world of spirits, so is also that of our earth, the work of an Almighty Will, whereby it once began to be out of nothing, and was brought into its present condition" (J. J. Van Oosterzee, *Christian Dogmatics*, I, 317). "The real creation of God is Spirit; and if we attempt to conceive His creative action simply under physical categories, or to state it in terms of physics we shall never truly conceive or rightly describe it. In the strictest sense matter has no independent being, but spirit has, for independence is made by two things—the ability to know and the capacity of being known. Neither attribute belongs to matter *per se*" (A. M. Fairbairn, *Philosophy of the Chrisitan Religion*, p. 57).[4]

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world, and all the universe is made upon one plan with reference to that, with its regular order and stages" (H. B. Smith, **Sys. Chris. Theology**, p. 96). "God's holiness (his perfect goodness consistently acted upon) denotes the end for which he creates and is conducting the universe. . . His aim is to produce beings who are capable of goodness and then to make them good" (W. N. Clarke, **Outline of Christian Theology**, p. 91). "Christian faith conceives the relation existing between God and the world as that of sovereignity on the one hand and of dependence on the other. This sovereignity, extending to all parts of the universe, is expressed in theology by the doctrine of the divine decree. The decree may be defined as that consistent moral purpose by which all the events of the universe are determined, and of which, when taken in their theological connection, they are the expression. This purpose Christian faith finds in the establishment of the Kingdom of God" (W. A. Brown, Professor of Systematic Theology in the Union Theological Seminary, New York, in **Christian Theology in Outline**, p. 182).

[4]In the above definitions we have not thought it worth while to cite views of the 'modern man' or the 'modernist' (so-called). Some of the reasons are stated by Prof. Josiah Royce of Harvard. "The conception of the 'modern man' is one of the most arbitrary of the convenient fictions of current discussion. What views or types of views are, or ought to be, characteristic of the 'modern man' hardly any of us will wholly agree in

II.

THE KEY TO CHRISTIAN THEISM AND BIBLICAL COSMOGONY.

A. The Creation Narrative in Genesis I.

In comparing the Christian view of creation with the scientific, one must start with the first chapter of Genesis. It is the key to the Biblical cosmogony or the origin of the visible universe. We review the chief interpretations of the narrative.

(A) THE PICTORIAL THEORY.

According to the Pictorial Theory only a general impression is sought to be conveyed, but no fixed or definite plan suggested. The only purpose is to teach that God is the originator of all things. The narrative is poetical, not historical. The sufficient reply is, that the narrative purports to state facts. Even if the view of Dr. C. Briggs, Sievers, and others should prove correct, that the account in Hebrew is in strophic form and poetical, it would still be true that the narrative has internal evidence of moving in the realm of the real, and not merely the phenomenal. We therefore dismiss this view as untenable.

(B) THE PRE-ADAMITE THEORY.

The second is the pre-Adamite Theory, of which there are two forms. 1. *Two Creations.* According to the first, the stars, planets, and in short the whole physical universe were created in the far-off past, millions of years ago; but the present order of the globe inhabited by man was effected in six days of 24 hours each. The fossils in the rocks and the whole geological formation be-

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defining. And if there is any typical 'modern man', he would seem, at first sight, to be a creature of a day. To-morrow some other sort of modern man must take his place. And of the modern man of a future century we now cannot even know the race—much less, it would seem, the religious creed. What creed about religion, Christian or non-Christian, now befits the creature of a day whom our young century calls the modern man—why need we inquire?" **(The Problem of Christianity, I, p. 16).**

long to former ages, as also the remains of life imbedded in the earth. In this alleged pre-Adamite age there were rational beings, to whom death came on account of sin. The chief argument is that *tohu*, verse 2, means, not wasteness, but ruin, desolation, corruption, where previously there had been order. But such is not the meaning of the word in other passages. The argument is illicit. Hence dismissed here.[5]

The second form of the catastrophic hypothesis is that of Winchell, the scientist, who held that there were varieties of the human race prior to Adam and Eve, the progenitors of the present white human race. By this view he accounted for the "Nephilim" and "mighty men of old", Genesis 6:4. As this view is one form of the evolutionary hypothesis we may for the moment omit a consideration of it. Morever, it is not exegetically defensible.

(C) THE RESTITUTION THEORY.

The third or Restitution Hypothesis, somewhat similar to the preceding, holds that Genesis 1:1 describes the creation of all things and "finds the great geological fossil—depositing ages between the first and second verses of this chapter." Here it places all forms of life on the earth prior to man. They had no connection with the present order; and the whole narrative from verse 3 on is a record of the fitting up of the earth for the advent of man. The six days are 24 hour days, but the preceding periods may have extended over millions of years. The hypothesis differs from the preceding chiefly in not pro-

[5]One is astounded to find the following in C. I. Scofield's Reference Bible: "It is by no means necessary to suppose that the life germs of seeds perished in the catastrophic judgment which overthrew the primitive order. . . It was **animal** life which perished, the traces of which remain in fossils. Relegate fossils to the primitive creation, and no conflict of science with the Genesis Cosmogony remains" (p. 4). But in that case there must have been two creations, one of the geological ages, the other of the present order.

nouncing for or against the view of rational beings in the previous aeon.

Objections to this View.

1. There is nothing in the narrative to indicate a break between the first and second verses. The hypothesis starts with the supposition that the days are 24-hour days, which is by no means required. The whole tenor of the account indicates one unbroken series of events; there is no linguistic sign of a break in the series. Indeed no such conjecture would have arisen had there not been a desire to account for the geological ages. The remains of life in the rocks are there and must be accounted for under any view.

2. This view is further objectionable because it confines the account of creation to the history of the earth, except in the one point, that the creation of the heavenly bodies is allowed to be meant. But it omits to account for the appearance of many forms of life prior to the human period. These are passed by; and yet we are told in 2:4: "These are the generations of the heaven and the earth, when they were created, in the day that Jehovah God made earth and heaven." The narrative accordingly gives an account of the creation of the physical universe in its successive stages from first to last. Further, this view plunges all the testimony of the rocks into the indefinite period between verses 1 and 2. Hugh Miller already objected to the theory on the ground that the many forms of life in the geological periods are similar to those found to-day. It would seem therefore that there had been no great cataclysm of destruction of the original cosmos, but that all periods and forms of life belong to the present world-order. This brings us to

(D) THE AEONIC THEORY.

According to the fourth or Aeonic theory, Genesis I is an account of the creation of the whole visible or phys-

ical universe, of all matter and force, its subsequent chaotic condition, the forming of the separate bodies, the origination of the various forms of life upon the earth and its general fitting up for the abode of man. This theory, held already by Augustine and some Church fathers, has in recent times been formulated in terms of science by men like Professors Arnold Guyot, of Princeton and J. D. Dana of Yale. Contrary to the superficial view of some persons, a striking parallelism is found to exist between this chapter and the results of science. Such parallelism is not complete or final, and there are difficulties under any view, but the similarities between Genesis and Geology are greater than the dissimilarities. It will be seen that the chapter under review is not at all an imaginative sketch, but contains a rough outline of the course of creation and of the subsequent development of the universe.

B. Interpretation of Genesis I: 1-2.

It is evident, even to a superficial reader, that the first chapter of Genesis reveals such a unity of plan and purpose and proceeds in such a natural and logical order that the author whoever he was, was either a transcendant genius or divinely inspired, perhaps both. All recent attempts from the side of science, comparative religion and "modernism" to belittle the profound underlying thoughts, proceed from men who have an inadequate conception of the Old Testament religion and of Chritianity as a system, a false idea of the inner nature of the old pagan religions, and a one-sided and exaggerated conception of modern science. It may safely be affirmed at the outset, that not one of the many great discoveries in science, nor all combined, nor yet any of the accredited pronouncements of philosophy, disprove the essential correctness of this remarkable record.

(A) OUTSTANDING FACTS.

Whatever may be said of details, certain facts of the narrative stand out in bold relief as both basic in the Biblical plan of salvation and the philosophy of the universe and confirmed (or at least not refuted) by science and the best contemporaneous thought. What Argyll wrote a generation ago is still valid: "Certain it is that whatever new views may now be taken of the origin and authorship of the first chapter of Genesis, is stands alone among the traditions of mankind in the wonderful simplicity and grandeur of its words. Specially remarkable, miraculous it really seems to be, is that character of reserve which leaves open to reason all that reason may be able to attain. The meaning of these words seems always to be a meaning ahead of science, not because it anticipates the results of science but because it is independent of them, and runs, as it were, round the outer margin of all possible discoveries."

Though the account is non-committal in regard to various subjects on which science has reached no definite conclusion, it is clear, profound and final on three points: the primordial creation of matter-force; plant and animal life; and man. Despite all its boasting, science has not disproved these three creative acts and facts. These creations are not simultaneous, but successive. The creation of each of these great orders is expressed by the word *bara* found in verses 1, 21 and 27, and there only. This is not an accident. "According to this [the use of the word *created*] the evolution from one of these orders into the other—from matter into life, the animal life into the spiritual life of man—is impossible" (Guyot). The reader must grasp this fundamental truth, if he would understand what the current scientific movement involves.[6]

[6]We may anticipate somewhat by calling attention to Dana's summary: "Suppose the world to be in its condition of inorganic progress, we

(B) CHIEF CONCEPTIONS AND WORDS IN GENESIS I.

1. *God, V. 1.*

By a peculiar usage the Hebrew word for God, Elohim, is here used with a verb in the singular. Delitzsch, Oehler, Dillmann, Driver, regard it as denoting an intensive plural, or plural of majesty, a plurality in unity, a unity in plurality. This great introductory sentence is the foundation-stone of the whole Christian theistic structure. Remove it; the structure crumbles. It assumes the existence, eternity, wisdom and freedom of God; his existence and eternity, because he is prior to the cosmos; his wisdom, for a universe of matter and mind can come only from a being of supreme intelligence; and his freedom, for he initiates a new line of action (conceived in eternity). The majestic declaration at once impliedly denies dualism, atheism, materialism, fatalism, pantheism, panpsychism and energetic (Haecklian) monism in all their hydra-headed forms.[1]

God, who in a true sense is ultimately the Author of Scripture, does not argue his existence, any more than the author of a book begins by proving his existence. But this does not mean that such proof is impossible if demanded. We traverse the whole field of science and philosophy and come in the end to this sublime truth, "In the

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have no scientific ground for supposing that it could pass to a higher state, possessing living beings, by any parturient powers within. Or if life exists, we still get no hint as to the evolution of the four sub-kingdoms of animal life from a universal germ: nor as to the origin of class-types, Order-family, or Genus-types, or those of species, each of which is a distinct idea in the plan of creation. Nature, in fact pronounces such a theory of evolution absolutely false. The perpetual presence of Mind, infinite in power, wisdom and love, and ever acting, is manifest in the whole history of the past."

[1] "God is the absolute Reality, upon whom the relative reality of the cosmos depends for its maintenance and continuous existence. . . The cosmos is a finite projection of the Infinite" (A. Reutenâhl, **Scientific Theism Versus Materialism**, Pp. 18, 39). See this valuable work for sound views on God, the Universe, Ether, Space, Time, Matter, Force, Einstein's Theory of Relativity, etc.

beginning, *God.*" Whence came this incomparably original conception in an age when there was no science, philosophy or literature, whether Babylonian, Egyptian, Assyrian or Greek that could possibly suggest anything of the sort? According to all canons of internal criticism it must have emanated from an unparalleled human genius or from one supernaturally inspired. There being no proof of the former alternative, only the latter remains.

2. *In the beginning.*

It is universally allowed that the "in the beginning" of John 1:1 is used absolutely of the origination of the temporal order of things. Recently some exegetes have urged that the expression in Genesis 1:1 denotes, not an absolute, but a relative beginning, and especially so, if the first verse be viewed, not as a finite and complete sentence, but as dependent upon the "and God said," verse 3. As such a construction is contrary to Hebrew usage, it is best to treat the phrase as here used absolutely. Besides the "*en arche*" of the Greek in both texts supports this contention. This conception of a beginning is unique and without parallel in ancient literature, whether Babylonian or Greek. The eternity of matter is a well-known pagan idea, taking various forms. It is only in Scripture, not in science and heathendom, that this conception is original and principial.[8]

3. *"Created," V. 1.*

The Hebrew word for "created" means here an absolute creation and not a shaping of matter already in ex-

[8]Science at bottom must come to this position, as says Sir. W. Thompson: "The changes and mutability in the world imply that it had a beginning and will have an end. Within a finite period of time past, the earth must have been, and within a finite period to come, the earth must again be, unfit for habitation of man as at present constituted, unless operations have been or are to be performed, which are impossible under the laws to which the known operations going on at present in the material world are subject. There cannot be uniformity. The earth is filled with evidence that it has not been going on forever in its present state and that there is a process of events infinitely different from the present."

istence. The word in the form here employed occurs 48 times in the Hebrew Bible and never refers to human creation, differing in meaning from *asah, yatzar,* and *yalad.* It denotes a free act of God. "The universe is related to God as our own volitions are related to ourselves. They are not ourselves, and we are greater than they." Such is the uniform teaching of the Bible; Rom. 4: 17, God calling into existence "the things that are not;" Heb. 11: 3, "By faith we understand that the worlds have been framed by the word of God, so that what is seen hath not been made out of things which appear," that is, the physical universe was not made of existing material, but arose by direct *fiat* (a word which throws the average modern man into convulsions). So Alford, Meyer and standard authorities.

4. *"The heavens and the earth," V. 1.*

There being no word in the Hebrew corresponding to the Greek Cosmos and the Latin universum, the circumlocution here given may be regarded as the equivalent. It signifies the whole system of which the earth forms a part, the sun, planets, the remotest stars and meteors. "Jehovah made heaven and earth, the sea and all that in them is" (Ex. 20:11). In addition to the magnificent hymn of creation, Ps. 104, one may compare Job 38: 4: "Where wast thou when I laid the foundations of the earth?. . . . When the morning stars sang together, and all the sons of God shouted for joy?," from which it may be inferred that the morning stars and sons of God existed previous to the six creative days (that is, there must have been a created spiritual universe prior to the physical). Since Genesis 1:14 is to be interpreted phenomenally, it is in harmony with Job and Genesis 1: 1.

There being some diversity of view regarding the relation of verses 1, 2, 3, we may hold provisionally that the former two cover the original introductory stages and

that verse 3 begins the first day's work. Three facts are therefore revealed. "First, originally God created the heaven and the earth. Secondly, at a certain time formlessness and darkness prevailed. Thirdly, the Divine Spirit wrought upon this chaotic state. And thus the way is prepared for the six-day's work" (Alford).

C. The Six Creative Days.

(a) the first day: first work. vs. 3-5.

According to both Genesis and Geology, the earth originally was formless and void and not yet separated from the nebulous mass. The "let there be light" is paralleled by the scientific dictum that light is the result of molecular activity. These were days or periods without the sun. "In the fact that God creates by a word, there are several important truths implicit. It is an indication not only of the ease with which He accomplished His work, and of His omnipotence, but also of the fact that He works consciously and deliberately. Things do not emanate from Him unconsciously, nor are they produced by a mere act of thought, as in some pantheistic systems, but by an act of will, of which the concrete word is the outward expression. Each stage in His creative work is the realization of a deliberately formed purpose, the 'word' being the mediating principle of creation, the means or agency through which his will takes effect" (Driver, *Genesis*, p. 5).

Longinus, the most capable critic of the heathen world, in his work on "Sublimity" pronounces this the sublimest thought in all literature. Witness also Milton's famous apostrophe, "Hail, holy light, offspring of heaven, first-born."[9]

[9] **Fiat and Special Creation.** The word **fiat** occurs in the Latin translation of v. 3 **dixitque deus fiat lux** and means the divine command, expressed, not audibly (for God is without bodily parts) but volitionally and executively. It is an accomodation to human modes of expression. A "fiat" is simply an efficient command proceeding from divine personality.

(B) THE SECOND DAY: SECOND WORK, VS. 6-8.

"Let there be a firmament, etc". Here again the real and the phenomenal are blended, a mark of literary skill. The Hebrew *rakia* were better rendered by 'expanse', something spread out. The canopy of heaven, an optical illusion, seems even to us as a solid expanse or covering. The basic thought is that God here ordains the economy or ordinance by which immense bodies of water are suspended in the upper regions in compliance with divine law. Science has nothing to substitute for this. "The rains, the springs and rivers which fertilize the earth and sustain its inhabitants, are only the overflowings of this vast aerial reservoir, upheld by the laws established by God" (J. W. Dawson).

(C) THE THIRD DAY: THIRD AND FOURTH WORKS, VS. 9-13.

The waters under the heaven are "gathered together"; the earth develops into an independent sphere. The term "waters" designates the "primordial cosmic matter" (Guyot) or "the molten mass of earth and sun," from which the earth is thrown off. As the Hebrew has no word corresponding to "fluid masses", the word "waters" comes nearest. The emergence of the dry land and the formation of the seas denotes the divine ordaining of the laws then and now operative.

The soil being now ready for the introduction of vegetation, the earth by the "fiat" of God is empowered to yield "grass, herbs yielding seed, and fruit-trees bearing fruit after their kind", v. 11. This discriminating state-

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The word is used also in a relative sense. When President C. Coolidge on Feb. 3, 1924 issued a proclamation directing that in testimony of respect to the memory of ex-President Woodrow Wilson flags be displayed at half-staff, he issued a "fiat." In spite of such correct usage the country swarms with men who talk derisively of "fiat creation" and "special creation." Pray, what else would creation in the Biblical sense be but a "fiat"? And it was "special," specific, absolutely original.

ment is in accord with what botany tells us as to the line of ascent in plants and trees.[10]

Moreover, the apparently paradoxial statement in 2: 5, "no plant of the field was yet in the earth", would seem to imply that the writer conceived of God, as creating, not necessarily each individual, but rather the type, or in Aristotelian phraseology *universalia ante res,* universals before the particular. Under this view, which applies to other creations and throws light on the troublesome words species and genus, God created the idea, the *min,* the kind, the genus, the species, as the case may be and leaves the rest to development or evolution (if this word be used in the legitimate sense.)[11]

(D) THE FOURTH DAY: FIFTH WORK, VS. 14-19.

Under one view the command, "let there be luminaries, etc." implies that they were created on the fourth day. But the organization of the stellar and solar systems at an earlier date compels us to hold that, though the sun was previously in existence, its light failed to penetrate the earth before the fourth period. This interpretation is borne out by the fact that before the words "the stars also", there is no verb in the Hebrew text, which necessitates supplying "he made"; but the time *when* he made is left indefinite. In any event the "fiat" is less designed to teach astronomy than to announce the humane purpose, "for signs, and for seasons, for days and for years".

[10]If it be objected that the earliest fossils are animals, the answer is that early vegetable forms, as the algae, were easily destroyed and that different kinds of vegetation are found underneath early animal remains. In any event, animals must be supposed to have subsisted in part upon leaves and vegetation. Again, if it be objected that fruit-trees could not in the absence of sun-light have been created on the third day the answer is that the writer simply anticipates somewhat.

[11]That every living thing is produced "after its kind" is the latest pronouncement of science. See page 120.

[11]"Every plant that now grows springs from an immaterial power (conditioned by an idea) brought in certain relations to the earth. This power is not the seed as seed-vessel, for that dissolves in the process

The description is written from the ancient geocentric view-point and so far forth does not harmonize with the teachings of modern astronomy. But, as Dillmann says, the object of the writer is a religious one and so it is sufficient to know that the heavenly bodies are marvels of the creative power of God. "There is at the same time a tacit opposition to the wide-spread belief of the ancients that the heavenly bodies were themselves divine and to be treated as objects of worship, Deut. 4:19; Job 31:26; (Driver).

(E) THE FIFTH DAY: SIXTH WORK, VS. 20-23.

The creatures here spoken of "the great sea-monsters...after their kind, and every winged bird after its kind" correspond in general and largely in detail to the representations of science as to the order of their appearance. They represent the four grand animal kingdoms: radiates, mollusks, articulates and lower vertebrates. If it be claimed that birds ought not to be assigned to the fifth day, the answer is that birds are not genetically land-products but water-products, a kind of amphibians, descendants of Saurians. In brief the creations of the fifth day are chiefly sea-productions; those of the sixth, land-productions, a succession confirmed by science. Scientifically marine life comes before land life, because the water and air are more quickening than land. The account here is so marvelously unique and accurate that no ancient record contains anything even remotely approaching it.[12]

(John 12: 24), and by such dissolution sets free the immaterial life, to work again, as at first. . . . In the beginning the command of the Logos places it in immediate connection with such outward conditions. . . . The tree, regarded materially is as much a flowing thing as a river, although it flows much more slowly. It is therefore alike irrational to think of God's making either of them outwardly, or immediately, instead of the causation from which they respectively proceed" (Tayler Lewis, in Lange's Genesis).

[12]Something ought to be said here regarding the strange expression "living creatures", the Hebrew of which literally rendered is "living

(F) SIXTH DAY: SEVENTH AND EIGHTH WORKS.

This day like the third is characterized by two creative acts; land-animals and man.

1. *Land-Animals.*

As the creatures of the fifth day were predominantly marine, so those of the sixth are terrestial. Here again the order in general is scientifically correct. In verse 24, as in verse 20 the phrase "living creatures" occurs, as also the word kind (Heb. *Min).* Three classes of terrestial animals are enumerated: first, the *behemah,* cattle, large quadrupeds; second, the *remes,* creeping things, as lizards, snakes, and small creatures with more than four feet; and third, the *hayatho-eretz,* beasts of the earth, wild animals. This day witnessed the introduction of mammals,—viviparous species, those suckling their young.

The nature of the creations of the first part of the sixth day is summed up by Dana: "The succession in the living tribes is: (1) plants, third day; (2) Invertebrates and the lower vertebrates (fifth day); (3) Mammals, or the higher Vertebrates (first half of the sixth day); (4) Man, the head of mammals (second half of sixth day). Science might say that the principles of zoological classification would have been conformed to more closely if the work of the fifth day had ended with the invertebrates, leaving all the vertebrates to the sixth day. But this arrangement, viewed in the light of the philosophy of his-

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souls". In Old Testament psychology the term **nephesh**, soul, denotes both the **animal** or life principle which man has in common with the animal and the mental, spiritual principle which distinguishes man from the animal and allies him to God. The nephesh of man is a special creation or endowment. The Latin is the only language which has two words for the Hebrew nephesh, namely **anima**, life and animus, mind. The life principle of the animal is inseperably connected wih the earth, with the life of nature, the **anima mundi** of the ancients and so at death is reabsorbed back into nature. On the other hand the soul-spirit of man is different in origin and principle as affirmed in 2:7 and lives on after the dissolution of the body.

tory is no improvement; since the record, like the rest of the Bible, has special reference to man, in whom is the consummation of all history. The sixth day's work includes only that particular division of vertebrates, to which man himself belongs, whose common characteristic, that of suckling their young, is through the feeling of subjection, reverence and affection it occasions, of the highest value as a means of binding child to parent, man to man and man to Maker."

Doubtless we shall be told that Dana, Guyot, Dawson, the Duke of Argyll and great scientists of the past have been shelved and that the unbaked hypotheses of High School teachers of science are to be preferred.

2. *Creation of Man.*

Without entering upon the interminable discussion as to the use of the plural in "let us make man," we proceed at once to the consideration of verses 1:27, "God created man in his own image, in the image of God created he him; male and female created he them," and 2:7, "And Jehovah God formed man of the dust of the ground and breathed into his nostrils the breath of life; and man became a living soul."

The narrative, instead of saying "let there be man," as it was said "let there be light," "let the earth produce, etc.", or "let an ape become a man," represents the Godhead as in a contemplative pause, evidently to indicate the superior worth and dignity of the creature about to be formed. "Earth and earth's tribes were prepared; but now there is a king to be set over them,—one like them, but also unlike them; a complex being, made up of the dust of the earth and of the image of God" (Alford).

Three times in 1:27 the word *created* occurs in connection with the production of man. His bodily organization may, as is probable, have been produced from already existing elements, as indicated in 2:7, "the dust of

the ground," yet in and above the body, and above the mere life-or-animal principle, there must be, in view of his supremacy over the lower orders, a rational self-determining soul-spirit, allied to God in personality and yet only relatively independent.

On the image of God in man, let the reader ponder over Driver's summary: "The image is (1) something which evidently forms the ground and basis of his entire preëminence above animals; (2) it is something which is transmitted to his descendants (5:1, 3; 9:6) and belongs therefore to man in general, and not to man in a state of primitive innocence; (2) it relates, from the nature of the case, to man's immaterial nature. It can be nothing but the gift of *self-conscious reason,* which is possessed by man, but by no other animal. In all that is implied by this—in the various intellectual faculties possessed by him; in his creative and originative power, enabling him to develop and make progress in arts, in sciences, and in civilization generally; in the power to rise superior to the impulses of sense, of subduing and transforming them, of mounting to the apprehension of general principles, and of conceiving intellectual and moral *ideals;* in the ability to pass beyond ourselves, and enter into relations of love and sympathy with our fellow-men; in the possession of a moral sense, or the faculty of distinguishing right and wrong; in the capacity for knowing God, and holding spiritual communion with Him,—man is distinguished fundamentally from other animals, and is allied to the Divine nature; so that, wide as is the interval separating him from the Creator, he may nevertheless, so far as his mental endowments are concerned, be said to be an image, or adumbration of Him. From the same truth of human nature, there follows also the possibility of God being revealed in man, John 1:1-14). Comp. in the N. T. I Cor. 11:7; Jas. 3:9" (Driver, *op. cit.* p. 15).

These sober conclusions of an eminent British scholar are respectfully commended to the consideration of all persons tracing their ancestry to the ape.

That man differs from the highest order of animals, not merely in degree, but in kind and must have had a different origin is clear from Scripture, the history of the race from the earliest times and every psychology that does not start with the elimination of the "psyche," the soul-spirit in man. See further, chapters V and VI.

D. The Stages of Creation.

Assuming that the creation of verse 1 refers to the physical universe and is prior to the days following, we understand that the six creative days are six vast periods of indefinite length, millions of years according to science. The number of specific creations is not susceptible of exact determination. This much, however, is clear: on the first, second and fifth days, God ordained the natural laws, ordinarily designated by science as movement, light, force, heat, gravitation, in short the mathematical, mechanical, chemical, physical laws operative to-day, none of which as to origin science can explain.

On the third, fifth and sixth days, vegetation, animal and human life were originated. The laws and forces operative on the other days could not originate the life of these three days, as science, despite its strenuous efforts to the contrary, must concede. The first triad of days is confined strictly to the *inorganic* world, which cannot produce the *organic;* the second triad by special creation comprizes the *organic* world. With the exception of the creation of vegetable life on the third day and the appearance of the luminaries on the fourth, the first three days constitute the inorganic era and the last three of the six creative days the organic, (so geologists generally).

The above facts are of profound significance and differentiate the Biblical from every other ancient cos-

mogony to such a degree that comparison is absolutely out of the question.

E. Parallel Between Genesis and Geology According to Guyot and Dana.

Agreeing essentially with the foregoing outline of the creation days, but differing in minor parts, is the schematism of Profs. Arnold Guyot and James D. Dana. The latter acknowledging his indebtedness to Guyot, writes: "The best views we have met with on the harmony between science and the Bible, are those of Professor Arnold Guyot, a philosopher of enlarged comprehension of nature and a truly Christian spirit; and the following interpretations of the sacred record are, in the main, such as we have gathered from personal intercourse with him."

Prof. Dana then states his views thus:—The Cosmogony of modern science teaches that the universe, "the heavens and the earth," was first in a chaotic or gaseous state. "The process of its development included the following steps: (1) activity begun—light an immediate result. (2) The earth made an independent sphere. (3) Outlining of the land and water, determining the earth's general configuration. (4) The idea of life in the lower plants, and afterwards, if not contemporaneously, in the lowest or systemless animals, or Protozoans. (5) The energizing light of the sun shining on the earth—an essential preliminary to the display of the systems of life. (6) Introduction to the systems of life. (7) Introduction of mammals—the highest order of the vertebrates,—the class afterwards to be dignified by including a being of moral and intellectual nature. (8) Introduction of man" *(Manual of Geology,* p. 743).

Dana then points out that the succession in Genesis and Geology is practically the same. "We observe not merely an order of events, like that deduced from sci-

ence; there is a system in the arrangement, and a far-seeing prophecy, to which philosophy could not have attained, however instructed. The account recognizes two great eras of three days each,—an inorganic and an organic. Each of these eras opens with the appearance of light; the first, light cosmical; the second, light from the sun for the special uses of the earth. The arrangement is then as follows:—

(A) THE INORGANIC ERA.

1st Day.—Light Cosmical.
2nd Day.—The earth divided from the fluid around it, or individualized.
3rd Day.—1. Outlining of the land and water.
2. Creation of vegetation.

(B) THE ORGANIC ERA.

4th Day.—Light from the sun.
5th Day.—Creation of the lower order of animals.
6th Day.—1. Creation of mammals.
2. Creation of man.

Dana adds: "The record in the Bible is therefore profoundly philosophical in the scheme of creation which it presents. It is both true and divine. It is a declaration of authorship, both of creation, and the Bible, on the first page of the sacred volume" (p. 745). Elsewhere he says: "The first thought that strikes the scientific reader [of Genesis] is the evidence of divinity, not merely in the first verse of the record and the successive fiats, but in the whole order of creation. There is so much that the most recent readings of science have for the first time explained, that the idea of man as the author becomes utterly incomprehensible. By proving the record true, science pronounces it divine; for who could have correctly narrated the secrets of eternity but God himself" *(Bibliotheca Sacra,* Jan. 1856).

Doubtless up-to-the-minute scientists, who in their heart say, 'wisdom begins and ends with us,' view with contempt such men as Guyot, Dana, and the Duke of Argyll and prefer to pin their faith to Haeckel, Cope, and Huxley, but we have thought it opportune to state the views of former worthies for the benefit of readers not having access to the sources.

F. Recent Geology and the Creative Days.

Recent geologists hold that the 'days' of Genesis correspond with well-defined geological periods only in the most general way, if at all. According to geology, the orders of plants and animals do not advance from lowest to highest in regular succession. Thus in the case of plants there seem to be none in the Laurentian period, some marine plants in the Cambrian, land plants in the Silurian, none in the Devonian, coal plants in the Carboniferous, earliest modern trees in the Jurassic and palms in the Tertiary (condensed from Chamberlin and other authorities).

Regarding the appearance of animals, the geological record runs thus, substantially: In the Laurentian period there appears the *Eozoon Canadense,* if it be an animal, the protozoa in the Huronian, invertebrates in the Cambrian, fishes in the Devonian, also insects, amphibians in the Carboniferous, more insects, earliest true reptiles in the Permian, earliest marsupial mammals in the Triassic, then monster reptiles and birds in the Jurassic, age of extinct mammals and first living invertebrates in the Tertiary, finally age of modern mammals and man.

If geologists are absolutely correct in their schematism of the succession of plants and animals, the discrepancy between the two records is marked. In Genesis plants appear before animals; in geology they appear simultaneously, indeed some geologists hold that animals came before plants. In Genesis fishes and birds appeared

together on the fifth day and preceded all land animals. In geology birds appear long after fishes; and what is more surprising still is that many species of land-animals precede both fishes and birds.

If we accept the geological schematism, the question at once arises: Where is the evolution from the lowest to the highest? In the Biblical narrative, there is, as Dana says, a profoundly natural and logical ascent; according to geology, invertebrates, fishes, insects, amphibians, reptiles, marsupials, fishes and reptiles (again), birds, mammals and man come and go without any real or genetic connection, except in the final periods. See Charts I and II.

G. Length of the Creative Days.

The question of the length of the creative days has always perplexed Bible students. Already in the early Church it was noticed that the Hebrew *Yom*, day, is used in no less than four senses within the limits of the first and second chapters. (1) In 1:3-5, it means the whole period of evening and morning included in the first creative period. (2) Then in verses 14-19, *yom* means day in the sense of measurement of duration. "Let them be . . . for days and years," i. e. 24 hour days, determined by the sun. (3) Again in verse 5, "God called the *light* day, etc.," that is, it means the light part of the day as distinct from the dark part. In fact there are two meanings of the word in verse 5, namely in the first half the *light part,* in the second half both evening and morning, the whole cycle. (4) Finally in 2:4, "In the day that Jehovah made heaven and earth," it means the whole creative period. Hence *yom* may mean a day of 12 hours, 24 hours, an age, or a period of undefined length, the day of Jehovah, with whom a thousand years are as one day.[13]

[13]The idea that the Church has changed its position regarding the length of the days under pressure from science is fallacious. Augustine,

Chart I.

COSMOGONY OF GENESIS I.

Interpreted in Terms of Science.

Introduction.	Gen. I:1-2. Creation of Universe	Eretz, earth, matter; maim, waters, fluid; formless, gaseous. The Spirit moving.
1st Day or Period	Gen. I: 3-5. Light.	Movement begins; chemical combinations; large luminous masses; division of light and darkness.
2nd Day or Period	Gen. I:6-8. Expanse.	Separation of waters above and below; primitive material (under either nebular or planetesimal hypothesis) breaks up into gaseous masses; separate bodies; worlds formed, but possibly on first Day; waters below, on our globe; waters above, in stellar regions.
3rd Day or Period	Gen. 1:9-13. 1. Dry Land.	Partial Condensation of matter into solids. Globe with its liquid covering and gaseous envelope.
	TWO PERIODS, corresponding to the AZOIC of Geology	1. Period of **hot** Oceans. — Hard crust on surface of the earth. Temperature 600°. Acids. Earth a vast galvanic pile, emitting electricity.
		2. Period of **cold** Oceans. — Physical and chemical forces subside; ocean cools; globe an extinct body; age of matter over; age of life possible.
	2. Plants.	Grass, herbs, fruit trees; matter controlled by an immaterial created principle.
4th Day or Period	Gen. I:14-19. Stars, Sun, Moon.	Atmosphere cleared of thick vapor; previous creation of stars, sun, moon implied in economy of the heavens; previously chemical action sufficient; earth then self-luminous. After disappearance of luminous covering, the sun, moon and stars become visible and furnish light to the earth.
5th Day or Period	Gen. I: 20-22. Sea-Monsters and Winged Fowl.	Water animals of all species; amphibians; reptiles of all kinds; then birds. Remarkable parallelism with science; Biblical record Key to the situation. Corresponds to the PALEOZOIC and MESOZOIC Periods.
6th Day or Period	Gen. I: 24-27. 1. Land Animals	Living creature after its kind (Hebrew **min**, species, possibly genus or family); cattle, domestic; creepers (reptiles); beast of the earth (carnivora). Corresponds to CENOZOIC or Tertiary of Geology.
	2. Man, Gen. I:27 and II:7.	Rational and self-determining being, differing in kind from all preceding forms. Corresponds to QUATERNARY of Geology.

If it be claimed that the author of the narrative ought to have given some intimation of his use of words, the ready answer is that an author of the first rank, as a Plato, Isaiah, Shakespeare, moves with gigantic strides and leaves you to follow, if possible. Accepting the great thoughts of Augustine, "we get a mode of exegesis which is most satisfactory in itself, and which need not fear the assaults of any science. It transcends science; it cannot possibly have any collision with it, and can, therefore, never have any need of what is called reconciliation. It treats of origins or beginnings in nature—things to which science can never reach" (Tayler Lewis, *op. cit.* p. 131). If it can be shown that the theory of aeonic days explains the greatest number of facts, the way is prepared for a reconciliation with science.[14]

H. The Astronomical Difficulties.

If the Genesis narrative be understood as stating absolutely that the sun and the moon were created only on

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some of the Church Fathers, Kimchi, Witson and other scholars, regarded the days as age-long periods. To add to the perplexity, it was noticed that, although light was created on the first day, the light of the sun did not penetrate the earth until the fourth day. Hence the first three days could not (except proleptically) be regarded as sun-lit days of 24 hours. Centuries before the birth of geology, Augustine asked: "What in the absence of luminaries are these days? He does not hesitate to call them, births, growths, solemn pauses in the divine work. They are **dies ineffabiles,** God-divided days in distinction from sun-divided days. Common solar days are mere changes in the position of the heavenly bodies and useful to calculate time, but not special creations characterized by a higher chronology." Augustine's reflections are profound under any view.

[14]It is objected that the last three days must be 24 hour days. The language of the fourth commandment Ex. 20: 11, "six days shalt thou labor, etc.," is cited as evidence that the days of Genesis are 24 hour days. This looks plausible; but one must examine the context. Genesis 2: 2 informs us that God "rested on the seventh day from all his works which he had made." This Sabbath rest of God is obviously not one of 24 hours. One need not adopt the old Jewish or the current premillinarian and unsupported view of seven periods of world history, to see that the Sabbath rest of God is an aeonic or timeless period. And Exodus 20: 11 informs us likewise, "Jehovah rested on the seventh day", clearly a God-divided day; otherwise we have the absurd conclusion that God rested 24 hours and then resumed his work.

the fourth day, any attempt at reconciliation is out of the question. Whatever hypothesis of the origin of the stellar and solar systems be adopted, the sun and moon formed an integral part from the first. Various solutions have been offered, as that of earlier exegetes, that the verb *be* of verse 14 means appears, and *made* in verse 16, either *made to appear* or appointed (J. W. Dawson) to their office. Whoever the author of the account was, must have been conscious of the discrepancy of speaking of 'light' on the first day and then conveying the impression that the light-bearers were created only on the fourth. As the first chapter is a unit from first to last and a perfectly articulated structure, we can not conceive of his committing any such blunder. The whole chapter being a brief, yet comprehensive apocalypse of the past, the writer, without entering into details, curtly conceives these luminaries as beginning to shed light upon the earth only on the fourth day.[15]

I. Immediate and Mediate Creation.

The traditional Church doctrine of a distinction between immediate and mediate creation is borne out by Scripture and prepares the way for a reconciliation between Scripture and science on some important points. Philosophy and revelation distinguish between primary and secondary causes; and revelation distinguishes between an immediate and divine creation, as the creation of the universe, of life and of man, and a mediate creation, as the separation of the "waters above from the waters below" and the "let the earth bring forth, etc."

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[15]Driver regards any such explanation as untenable; and the latest commentator on Genesis, Dr. John Skinner, though viewing the whole conception as unscientific in the modern sense, yet says: "Its religious significance is very great, inasmuch as it marks the advance of Hebrew thought from the heathen notion of the stars to a pure monotheism. To the ancient world, and the Babylonians in particular, the heavenly bodies were animated beings, and the more conspicuous of them were associated or identified with the gods" (**International Crit. Com. p. 25**).

Primary or immediate creation is the originating act of God whereby he brings into being and exercise the elementary essence of things; secondary or mediate creation is the act whereby God out of the already created essence of things originates through second causes different forms of things, plants and animals. However, one cannot be too positive as to the exact dividing line between the two; some such distinction, however, must be granted, if we would avoid the pitfalls of Pantheism on the one hand and deism on the other.

On the theory of second causes and mediate creation, both of which are denied in the current Haeckel-Huxley-Cope-Conklin-Osborn-Patten evolutionism, room is made for the origination, growth and development of forms and even for what science in its theistic stage properly enough denominated evolution.

J. Creation ex Nihilo.

Inexcusable confusion of thought prevails to-day concerning the phrase "creation from nothing" found in some of the creeds and in theological literature. The expression is properly limited to creation by God, otherwise creation might mean emanation, development, evolution or even the matter out of which something is produced, all of which are un-Biblical and untheistic conceptions.

Ex nihilo means that the creation of an object is not due to a development of any existing thing. The decisive language of Col. 1:16 "in him were all things created" and Heb. 11:3, "by faith we understand that the worlds have been framed by the word of God, so that what is seen hath not been made out of things which appear," proves that things seen are not made of things that appear, that is, back of the visible is the invisible, the real world.

The Greeks said: *ex oudenos ouden gignetai*, "from nothing, nothing comes."Hence, as polytheists, they con-

cluded that the universe is eternal, which was a correct inference from their premises. From nothing, nothing comes by finite power. Christian thought accepts the Greek apothegm, but in the sense that the Infinite Spirit out of nothing outside of himself created the universe.

The answer to the question of creation *ex nihilo* determines whether one is a Christian theist, a pantheist, a theosophist, or a half-and-half theist of a dozen varying shades. Jews and Unitarians are theists, but not Christian theists. Spinoza's definition of substance as 'that which exists of itself' is a denial of the doctrine of creation ex nihilo. Holding that a created substance is an impossibility, Spinoza denied the distinction between primary and secondary substance and defined substance as *una et unica*, that is, ultimately there is only one substance, which means that minerals, plants, animals, man, angels, God are at bottom one and the same, or differently phrased, there is no creation in any sense, all is merely development.

It is this dictum of the Spinozistic philosophy which the current evolutionism adopts, consciously by the knowing ones, unconsciously by the masses. For proof see quotation from Eliot, (Chapter I) above. The man who holds such views cannot, logically, be a Christian theist. Kant wrote: "The proposition that God, as the universal first cause, is the cause of the existence of substance, can never be given up, without at the same time giving up the notion of God as the Being of all Beings, and thereby giving up his all-sufficiency, on which everything in theology depends." Mathematical points, lines and surfaces have no existence, and yet out of them the mathematician builds up his whole system.

K. The Doctrine of Creation in the Whole Bible.

Even if the originality and credibility of the first chapter of Genesis were disproved, it would be found that

the same ideas run like a red thread through the whole Scripture. That God through the Logos created the universe *ex nihilo* is taught in the classic passage John 1:3 "all things were made by him; and without him was not anything made that hath been made," as well as in numerous others. In Proverbs 8:22, creation is called "the beginning of Jehovah's ways;" in Neh. 9:6, "Thou art Jehovah, even Thou alone; thou hadst made heaven, the heaven of heavens, with all their host, the earth and all things that are thereon, the seas and all that is in them." Ps. 19:1., "The heavens declare the glory of God, etc." All of Psalm 104 (especially v. 5, "Who laid the foundation of the earth," v. 14, "that causeth the grass to grow for the cattle," v. 24, "O Jehovah, how manifold are thy works; in wisdom hast thou made them all," v. 30, "Thou sendest forth thy spirit, they are created, etc.) is a magnificent paean of God's creative activity. Von Humboldt in his Cosmos pronounced Psalm 104 profoundly correct scientifically and philosophically.

The same doctrine characterizes the New Testament. Acts 17:24, "The God that made the world and all things therein;" Rom. 11:36, "For of him, and through him and to him are all things;" I Cor. 8:6, "There is one God, the Father, of whom are all things." Also other passages cited above. Most of these texts teach that creation denotes the origination of an entity from a non entity. The idea of creation ex nihilo is peculiar to Scripture, not being found in any other literature of the ancient world, whether Babylonian, Egyptian, Assyrian, Hindu or Greek. In all the ethnic religions, the world is developed from water, air, stars, or crude matter. The distinction between primary and secondary causes is observed in Scripture, as in all true metaphysics. The connection must determine whether primary causation (John I:3) or secondary (Is. 45:7) is meant.[16]

[16] "In the New Testament the divine creation of the world is presup-

L. The Biblical and the Babylonian Cosmogonies.

(A) THE GRAF-KUENEN-WELLHAUSEN POSITION.

The opinion is widely current in the literature of the day that the early chapters of Genesis are derived either directly or indirectly from ancient Babylonia, and that the first chapter especially is based upon a Babylonian epic of the creation which found its way to the Hebrews at a comparatively late date. Such is the view of the Grafians, whose slogan is that the Priest Code originated in 445 B. C. and accordingly "wipes out the Mosaic age." Associated with this assumption is the postulate that the Genesis narrative is no more authentic and inspired than the Babylonian.

The latest Grafian commentators on Genesis disparage the Biblical record. Thus Gordon holds that the indebtedness of Genesis to the Babylonian parallel is so considerable that a slightly different arrangement would bring them into accord (*Early Traditions of Genesis*). Observe that Gordon says: "Traditions," not history or revelation. Skinner writes: "It seems impossible to doubt that the cosmogony of Genesis rests on a conception of the process of creation fundamentally identical with that of the *Enuma elis* tablets" *(op. cit.,* p. 47).

(B) THE BABYLONIAN CREATION-EPIC.

There are at least a half dozen fragments of so-called Babylonian creation poems of varying age and worth. Among these priceless treasures there stands out prominently a lengthy poem, known as the "Creation Epic." As

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posed in the many sayings of our Lord and his Apostles, as those which mention the foundation of the world (Matt. 15:34; Luke 11:50; Jno. 17:24; Eph. 1:4; Heb. 4:3; 1 Peter 1:20), the creation of man and woman (Matt. 19:4-6; Acts 17:24-26; 1 Tim. 2:13); and those which represent Him as the Maker of heaven and earth (Matt. 11:25; Lk. 10:21; Acts 17:24); the Source of all things (Rom. 11:36; 1 Cor. 8:6; Eph. 4:16), the Father who through the Son made the world (Jno. 1:3; Col. 1:15-18; Heb. 1:2" (J. Strachan, **Ency. Relig. and Ethics**).

this is the narrative usually brought into comparison with the Biblical record, we review its spirit and value.

The poem consisting originally of about 900 lines (of which however, some 180 have been lost) is too lengthy to be reproduced here; but its characteristic features must be noted if we wish to estimate its bearing on the Biblical narrative. Much of the language is placed in the mouth of Marduk, the later supreme god of the Babylonians, in whose honor the account was written, or at least revised, in the time of Ashurbanipal. The first tablet is alleged to contain some striking parallels to Genesis. We quote. (The dots indicate lacunae in the text).

When above the heaven was not named,
And beneath the earth bore no name,
And the primeval Apsu, who begat them
And Mummu and Tiamat, the mother of them all,
Their waters were mingled together,
And no field was formed, no marsh seen,
When no one of the gods had been called into being.
And none bore a name, and no destinies were fixed,
Then were created the gods in the midst of (heaven),
Lakhmu and Lakhamu were called into being . . . . . .
Ages increased . . . . . .
Anshar and Kishar were created and over them . . . . . .
Long were the days, then came there forth . . . . . .
Anu, their son . . . . . .
There was no rival . . . . . .
So were established and . . . . . .
the great gods . . . . . .
But were . . . . . in confusion . . .
They were troubled and . . . . . .

The reader can judge for himself whether these lines approach even remotely the sublime account in the first few verses of Genesis.

The poet conceives of the necessity of obliterating the work described in the first tablet before the gods can find rest. Light (Marduk) and darkness (Tiamat) are ever

in conflict but light ultimately triumphs, as seen in the second tablet.

Tiamat made strong her handiwork,
Evil she devised among the gods her children,
(To avenge) Apsu, Tiamat planned evil,
As she had collected her (army against)
Ea she led them.

Even those whom ye have created march at her side,
They have banded together, they advance at Tiamat's side;
They are furious, they plan without rest day or night,
They prepare for battle, they fume, they rage,
They have joined their forces, they prepare battle.

The third tablet describes vividly the alarm of the gods over Tiamat's preparation and their appointment of Marduk as supreme dictator. The fourth tablet is represented by two long fragments, one a part of an Assyrian tablet, the other Babylonian. Combining them we get a text of 146 lines. The power of Marduk and the terrific combat are told with dramatic vividness:

O Marduk, thou art most honored
among the great gods,
Thy destiny is beyond compare,
thy command is Anu.
In all time thy command shall not be changed,
To exalt and to abase lie in thy hand.
Established shall be the word of thy mouth,
resistless thy command.
None among the gods shall transgress thy limits.

Marduk, seizing Tiamat in a large net, transpierces her with his scimiter:

He split her open like a flat (?)
fish into two halves;
One half of her he established as
a covering for heaven.
He fixed a bolt, he stationed a watchman,
He commanded them not to let her
waters come forth.

He passed through the heavens, he
considered its regions,
He set himself over against the deep,
And the Lord measured the con-
struction of the Deep,
And he founded E-sharra, a mansion like unto it.

Assyriologists regard this as a poetic description of the separation of "the waters which were under the firmament from the waters which were above the firmament." (Gen. 1:7); but all will allow that it is tame and pointless. The fifth tablet (very incomplete) describes the formation of the sun and moon and the ordinance of the heavens. The sixth tablet (greatly mutilated) is supposed to describe the creation of man:

When Marduk heard the word of the gods,
His heart moved him and he devised a
cunning plan.
He opened his mouth and unto
Ea he spake,
That which he had conceived in his heart,
he made known unto him;
"My blood will I take and bone will I fashion;
I shall make man that man may . . .
I shall create man who shall inhabit (the earth);
Let the worship of the gods be established,
let their shrines be built.
But I shall transform the ways of the gods,
I shall change their paths.
Together shall they be honored,
and unto evil shall they . . . . . ."

This is the only passage in the poem which has any marked resemblance to the Biblical account. It would seem to go back to a common original. The seventh tablet either describes or implies the creation of plants and grain.

(C) RELATIONS OF THE NARRATIVES.

The foregoing liberal citations reflect the spirit and essence of the Babylonian Epic. What is the relation

between the two accounts? Does the epic appear to be the basis either directly or indirectly of the Genesis narrative? Or is the latter so manifestly superior in conception and execution that dependence is out of the question?

Note the orderly and symmetrical Hebrew account: God as creator of heaven and earth, cosmic light, plants, solar light, lower animals in water and air, higher land animals, and finally man. Compare with this the confusion of the Babylonian record: Water, heaven, earth, gods, Marduk, the abyss, struggle, many lower gods, animals, man. Holzinger, who in the main agrees with Gunkel, finds many discrepancies and points out that in the Babylonian cosmogony, "chaos is the ultimate principle; the gods themselves are born from chaos. . . *Die Goetter, die die Welt bilden, werden erst selbst" (Genesis, Seite* 21). No one would claim any parallelism here and, least of all, a dependence of the Hebrew on the Babylonian. The six creative days of Genesis are unique, there being no Babylonian parallel. Whatever may be thought of the religious ideas and motives underlying the Epic the literary form is similar to that of Babylonian writing in general; namely, a series of names, events and striking situations with little literary skill or constructive thought. "It is only here and there, as in the description of the conflict with Tiamat, or in the concluding lines—if, indeed, they belong to the poem at all—that it rises above the level of mediocrity," says Sayce. Stylistically it falls immensely below the Hebrew narrative; comparison is simply out of the question. The first of Genesis stands forth in solitary grandeur. No cosmology, ancient or modern, matches is.

It is difficult to see upon what evidence those who hold that the Hebrew account is derived from the Babylonian, base their claim. It certainly cannot be along the line of literary art or of historic worth. How stands the case scientifically, philosophically and theologically?

(D) SUPERIORITY OF THE HEBREW RECORD.

We summarize the points of superiority of the Old Testament narrative:

1. The Hebrew account is distinctly and fundamentally monotheistic; the universe and all things therein are called into being by one supreme God. The Babylonian is polytheistic, or rather naturalistic, for the gods themselves are products of blind force. Toward the close of the poem the creator,—god, Ea, is swept away and "an atheistic philosophy has taken his place." (Sayce).

2. The Biblical narrative is homogeneous and consistent throughout, the different creative days following each other with a definite aim and in scientific sequence. The Babylonian epic confusedly mingles all kinds of mythological conceits from different periods, Marduk alternately destroying and creating, and finally cutting Tiamat in twain "like a flat fish." This contradicts the cosmogony of the first part and ends nowhere.

3. The first chapter of Genesis is on its face a record of the creation. In the epic, creation and the struggle beween light and darkness are mere episodes of the real theme, the glorification of Marduk. The story of the creation was introduced as a minor feature, since it was supposed that the supreme god of the universe was also its creator.

4. Not only the personality, but the absoluteness of God is taught in Genesis.The sublime keynote is: "In the beginning God created the heavens and the earth."

5. The Biblical account, though undergoing some editorial changes, goes back substantially to the Mosaic age; the Babylonian is a comparatively late recension of early and late material. It embodies "the latest and most fully elaborated attempt of the Babylonian mind to explain the origin of things. It is probably not much

older than the age of the second Assyrian empire." (Sayce).

6. These considerations are cumulative proof that the Biblical narrative can in no sense be said to rest on this Babylonian poem; and as no one, even of the most radical negative critics, claims that the Genesis account is based on any other Babylonian tablet or document, the whole contention of a Babylonian source falls to the ground.

7. If space permitted it could be shown that the first chapter of Genesis is the most ancient, reliable, authentic and scientific of all cosmogonic records.

8. Probably the most satisfactoy conclusion is that the Biblical cosmogony goes back to a primitive, monotheistic, Accadian-Babylonian source, which in a more or less unadulterated form, was handed down by the ancestors of Abraham and transmitted during the patriarchal and Egyptian periods (Joseph—Moses) to the time of the composition of the early chapters of Genesis.

CHAPTER III

EVOLUTION AND PSEUDO-EVOLUTIONISM.

A. Evolution and Evolutionism Defined.

The word evolution, ultimately from the Latin *evolutio,* and a legitimate coinage, means primarily to unroll or unfold. It implies something latent or pre-existing, which is unfolded. Neither nature nor man can unroll or unfold nothing. Gradually the term came to mean change, progress, growth, development, whether in nature or in human acticity. We speak of the evolution of history, of a dramatic plot, and of growth from a germinal or latent, to a mature state, as the oak from the acorn. The word lends itself to varied and frequently to colorless, if not absurd, meanings. We read of the evolution of the steam-engine and of the automobile, the evolution of literature and civil government, of a nation and of religion, the evolution of a lady's bonnet and the evolution of the universe and so on indefinitely. It is a proof of the lack of discrimination and reflective thought that not merely the uneducated public, but supposedly educated ministers, lawyers, physicians, editors, and professors in academies, colleges, and theological seminaries could not give a clear definition of the words evolution and evolutionism if their life depended upon it. Back of the confusion of speech is a confusion of thought.

Magazine articles of a half hundred pages and even whole volumes descant eloquently on evolution without any intelligible attempt to define the scope and limits of the term. Truth and error are so skillfully (or shall we say carelessly?) blended that a half truth becomes a lie, leaving the reader in a confused state of mind on the whole subject. Wigand, author of various scientific

works, writes: "Evolution is an indefinite and confused movement of the mind of the age." Dr. W. Kidd declares: "It is the nebulous character of the doctrine of evolution that constitutes its strength." We distinguish between evolution as the process and evolutionism as the doctrine or philosophy of the process.[1]

The idea of evolution has undergone change, as the history of the movement shows; naturally different scientific definitions have been given from the earliest to the latest times. The tendency to ignore reasonable distinctions has actually led to assertions that a machine is a kind of evolution and evolution a machine; hence that the universe is a machine, a mechanism. Professor Crampton writes: "Whatever definition we may employ for a machine or an engine, we cannot exclude the living organism from its scope. . . . A living individual is a mechanism. . . . As far as the evidence goes it tells strongly and invariably in favor of the mechanistic interpretation" (*The Doctrine of Evolution*, pp. 14. 30). So, too, Professor Conklin: "Science reveals nature as a vast mechanism."[2] We discover, however, amid the bewilderment of scientific opinion and terminology, a more or less steady trend in certain directions, until at present science has formulated certain laws as characterizing the evolutionary process. The dictionaries, encyclopedias, and voluminous literature offer many definitions; but they may be roughly grouped under three heads.

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[1] Throughout this work the term evolutionism is used in contrast with creationism.

[2] But another writes: "A machine is never alive in any legitimate use of this term. Motion is not necessarily life; it is only life that can produce motion. To speak of a mechanical organism is a flat contradiction in terms. In a machine the parts act and react only when in actual contact and in right relations. . . . A machine is not self-starting, self-propelling or self-sustaining. It wears out and needs constant care and attention with frequent repairs" (Prof. W. H. Wood, Dartmouth College, in **The Religion of Science**, p. 49).

B. Meaning of the Word Evolution.

We discover at least three fairly well-defined uses of the term.

(A) EVOLUTION AS DENOTING CHANGE, PROGRESS, IMPROVEMENT.

A common, though not accurate or legitimate, use of the term is that denoting change, progress, improvement, in the arts, trades, and ordinary affairs of life. Thus, the improvement made in the mode of cutting grain, from the old-time "cradle" to the latest and most perfect "reaper," is frequently designated as an "evolution," but it is absurdly incorrect; the "reaper" is in no sense an unfolding or unrolling of an original something, but the result of ingenious devices. Or, take the printing-press and follow the changes from Gutenberg to the latest Hoe pattern. To call the various modifications an "evolution" is an outrageous abuse of language.

Contemporaneous literature abounds in similar stupidities. To be sure, there is no law forbidding a man to pollute "the well of English undefiled," but it all tends to support Talleyrand's contention that language, if not actually "invented to deceive," is, as employed today, admirably adapted to serve that purpose.[3]

(B) EVOLUTION AS DENOTING A GROWTH, UNFOLDING OR DEVELOPMENT FROM A GERMINAL OR LATENT STATE.

Scientists speak of the evolution of the flower from the bud, of a moth from the cocoon and of the brain from

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[3] The Duke of Argyll writes: "Development is nowhere more conspicuous than in human invention; the gun, the watch, the steam-engine, the aeroplane, etc. But this kind and conception of development has nothing whatever to do with the purely physical conception involved in the Darwinian theory. The idea of one suggestion arising out of another in the constructive mind of man is a kind of development absolutely different from the idea of one specific kind or organic structure being born by ordinary and physical generation of quite different parents without the directing agency of any mind at all" (**Organic Evolution Cross-Examined**, p. 75).

primitive cerebral vesicles. A mathematician tells us of "the evolution of the sickening vapors emitted by foul oxide," and long before Darwin a theologian conceived of "the whole evolution of the ages from everlasting to everlasting as presentifically represented to God at once."

In biology the word denotes "the actual formation of a part or of the whole of an organism which previously existed only as a germ or rudiment"; also, ordinary natural growth, as of living creatures, from the germinal or embryonic to the adult or perfect state, as the evolution of the animal from the ovum. A common meaning of the word is that of descent or derivation, as the actual result of generation or procreation, as of offspring from parents. No one disputes such usage, and if no more were intended by the word, there could be no possible objection.

James Ward points out that the good old word "evolution" has been craftily diverted from its original connotations and made to represent an utterly indefensible philosophy and theology. He writes: "By evolution or development was meant originally the gradual unfolding of a living germ from its embryonic beginning to its final and mature form. This adult form, again, was not regarded as merely the end actually reached through the successive stages of growth, but as the end aimed at and attained through the presence of some archetypal idea, entelechy, or soul, shaping the plastic material and directing the process of growth. Evolution, in short, implied ideal ends controlling physical means; in a word was *teleological.* In this sense mechanical evolution or development becomes a contradiction in terms" [for the reason that in the current evolutionism the universe is a closed system controlled by natural law and admitting of no intervention, even by the Almighty.]

It is important to observe that evolution in this sense differs from number *one* preceding in implying, not mere-

ly change and improvement, but an intrinsic aim and purpose, a varied and in fact almost limitless development of the homogeneous, but always of the homogeneous, and not as Herbert Spencer held of the development of the homogeneous into the heterogeneous. It matters not how many toes the primitive horse had, whether five or twenty, or what its size, it was always and is yet and from present indications always will be a horse, and not a dog or a cow. And so of the giraffe, how it acquired a long neck matters little; it was first and last a giraffe and not a bear or a lion, as it might have become, if there were such a thing as the homogeneous becoming the heterogeneous.[4]

If scientists meant no more by evolution than growth, progress, development from the lower to the higher in the history of the universe and of man, there would be little controversy at this point. In the first chapter of Genesis creation and development, creative periods and advance to higher planes and in fact progression from the simple to the more complex (e. g., "let their be light," "let the earth put forth grass, etc.," "let the waters swarm, etc.," "let us make man, etc.") take place concurrently or consecutively; in short, the doctrine of advance, development, progression in the origination of the universe, of plant and animal life up to and including man, is set forth in the first of Genesis more clearly, logically, scientifically, and philosophically than in any other ancient cosmogony; and if the truth were told, than in any modern piece of writing, scientific or philosophic, of like brevity. Newton's *Principia,* Humboldt's *Cosmos,* Darwin's *Origin of of Species* and other great works are outclassed, being

[4] "Evolution is not a power in itself, but only a suitable word to express the action of the Power that is constantly working in such varied forms in all nature. Strictly speaking the evolution is always the result of the action, or self-unfolding of this Power. . . . Evolution itself does nothing, it only stands as a term whereby the action of these two factors, latent capacity and environment, are expressed" (W. L. Walker, **Christian Theism and Ethical Monism,** p. 89).

[illegible] [illegible] [illegible] [

nebula to the plant, animal, man (and even God, in the pragmatic and pluralistic philosophies, nothing being static, everything in flux and flow). There is no real break in the series, for God is always learning and getting pointers from man and nature. According to the doctrine of continuity all takes place through the absolute supremacy of natural law, whether such laws (as in quasi-theistic systems) were ordained by God, or are in their nature eternal (as in pantheistic, materialistic, and atheistic systems). The thoroughgoing evolutionist is in a dilemma; if he allows that God created matter and force and ordained laws, he is consistently driven to allow that He may have created plant and animal life, and man; but such admission would negate his assumption and postulate of the invariability, universality, and continuity of natural law; and so, driven to the wall and liable to go into hysterics at the thought of supernatural intervention, he is tempted, logically enough and against his better nature, to question whether God created anything at all. He may, of course, especially when addressing a Christian audience, retain the word, more as a mere figure-head than as the Creator and Upholder of the universe. His God is either the absolute of philosophy with no true personality, or the God of deism, who indeed created the universe but then abandoned it, or the "finite God" of Wells and the pluralists, a God who is powerless to control the complex affairs of the cosmos.

In short, the consistent evolutionist holds that there is no supernatural order at all, but only a dead level of natural law (not susceptible of modification or interven-

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stance." Again, no deep thinker will try to make sport over "special creation," "instantaneous creation," "creation by fiat." What else than "special" or "instantaneous" can God's acts of creation be? Then as to "fiat," every school-boy ought to know that it is simply the Latin of Genesis 1: 3, "**fiat lux**" and denotes a creative act responded to throughout the universe, but not necessarily uttered in audible, stentorian tones, as the objector stupidly supposes.

tion even by Deity), a closed system, an absolute determinism, in the inanimate, the animate and the human spheres in all the stages of the "evolution" of the universe. That such is the real inner significance of the current evolutionism will appear from a detailed examination.

1. *Evolution an Entirely Intrinsic and Naturalistic Process to the Exclusion of the Extrinsic and Supernatural.*

Huxley, Cope, Buechner, Haeckel, Le Conte, Crampton, Conklin, Leuba, Merz, Burroughs, have stated boldly and in unmistakable terms what the evolutionism of today really is and is meant to be. Professor Huxley writes: "The hypothesis of evolution supposes that in all this vast progression there would be no breach of continuity, no point at which we could say, 'This is a natural process' and 'This is not a natural process.' "

Here, two points are to be considered: (1) "No breach of continuity"; (2) All "a natural process." These affirmations mean that the whole cosmic process, from the assumed nebula or star-dust up to an Aristotle or a Newton, is due to some latent force or energy, not directed by mind but by blind necessity. When Huxley affirms that all is "continuous" and "natural," he means that at no stage can the idea of God as intervening in the forces of nature or in human history be entertained. Not even the incarnation and resurrection of Christ are exceptional according to the evolutionistic formula. If such events actually occurred they come under natural law.[6]

[6] It is of course true that Huxley, having in mind accredited phenomena, without any implication as to the ultimate cause, may not so far forth be charged with denying the existence and creative acts of God. But so far as can be discovered he nowhere, not even in the initial stages of the universe, leaves room for God and the supernatural. Though he does not say, "there is nothing supernatural," he adroitly says that we cannot say of anything that "it is not a natural process," which is practically a denial of the supernatural.

But since it was never known that by natural law any one arose from the grave, all such Biblical narratives are to be regarded as myths and legends. In short in the scientific scheme, God is either pantheistically identified with the universe, or deistically estranged.

Professor E. D. Cope writes: "The doctrine of evolution may be defined as the teaching which holds that creation has been and is accomplished by the agency of energies which are intrinsic in the evolving matter, and without the interference of agencies which are foreign to it. . . . *The science of evolution is the science of creation.*" Here, again, the idea is clearly expressed that creation is accomplished, not by a God outside of and apart from matter, but by "intrinsic agencies in matter," that, in fact, something creates itself. But this is contrary to all experience and is an absurdity.[7]

There is inexcusable confusion of terms in Cope's statement that plants and animals were "evolved from seeds, eggs and other germs." As seen above, under 2, the term evolution may be used instead of development to denote the growth of the oak from the acorn, but Cope teaches that such germ, seed, or life-principle, is itself an evolution from something that was not a seed or germ; this he calls a creation, that is, a thing creates itself, which Bergson calls "an empty and vain idea." Without pausing to inquire what Cope's conception of matter is, we note that in his view it must be eternal, for everything is "intrinsic," nothing "extrinsic."

Cope continues: "By whatever method species of plants and animals came into existence, they may be rightly said to be created. We speak of the existing plants and animals as having been created, although we know them to have been evolved from seeds, eggs, and other

[7] Henri Bergson, the French philosophic wizard, writes: "To speak of things creating themselves would amount to saying that the understanding presents to itself more than it presents to itself—a self-contradictory affirmation, an empty and vain idea" (L'Evolution Creatrice).

germs—and indeed from those excessively minute and simple structures known as cells."

Here all turns on the word "creation." Hitherto creation in the absolute sense, has been understood as meaning the calling into existence of that which before was not, or, as phrased in the Century Dictionary, "the act of producing both the material and the form of that which is made; production from nothing; specifically, the original formation of the Universe by Deity." The word is employed, also, to denote a product of thought or fancy, or an artistic or mechanical invention, but these are relative, not absolute creations. Shakespeare speaks of "a *false* creation" and Disraeli of "creations of curious arts." Bergson says that all the so-called creations of man "are only creations of *form*. How could they be anything else?"

We are not surprised, therefore, that with such somersaults of reasoning, Cope should flatly declare: *"The science of evolution is the science of creation."* Let us examine this astounding proposition. First, evolution is not a power, substance or entity at all; it is in fact a figure of speech, a metonymy, a use of one word for another. Evolution never did or made anything; evolution never made a gun or a sewing-machine; they were conceived and constructed by man. Evolution never created a grain of sand, a rose, a pig, or a man. They originated in mind, the Infinite Mind.

Since, however, as men advance in the use of language, plain, literal speech has a tendency to give way to figurative, one can see that people, scientists with the rest, not knowing definitely what is back of the forces of nature, come to regard this metaphor, this non-entity, as a veritable demi-god, with which one can conjure to his heart's content. It is such tricks of legerdemain with the word evolution that cause endless confusion and misunderstanding regarding the whole subject.

Le Conte, a cosmic theist, neatly and cogently defines as follows: "Evolution is (1) continuous progressive change, (2) according to certain laws, (3) by means of resident forces. . . . The process (4) pervades the whole universe, and the doctrine covers alike every department of human thought." Every one sees that this idea of "certain laws," "resident forces," "pervading the whole universe," excludes inferentially all thought of a Creator prior to and above the cosmic process. But let us look somewhat closely at these several definitions.

a. "Continuous Progressive Change." — The phrase "Continuous Progressive Change" is ambiguous. In the creation narrative, Genesis I, the "days" (periods) follow in natural, logical order and are "progressive" in the true sense, each preparing the way for the day succeeding, but not producing or "creating" it, as evolutionism teaches. Sequence and succession are clearly indicated, but only as the result of creative acts. If this were Le Conte's meaning there could be no possible objection. But the third statement "by means of resident forces" forbids any such interpretation. Le Conte's underlying idea is that the universe is the result, not of a divine creation, but of a becoming through intrinsic forces, the higher forms emerging from the lower.

Without entering here into the discussion, it may be observed that serious doubt has existed among scientists as to how far the word "continuous" fairly applies to the processes of evolution. While some hold that "variation" is indefinite, fortuitous and without any breaks, others meet such "assumptions" with a flat denial. If variation is not indefinite or fortuitous, it follows that it is not necessarily "continuous." Until scientists settle the question whether or not variation is "continuous," Le Conte's position must be regarded as problematical.

b. "By Means of Resident Forces." — Whether the "resident forces" originated with the Creator or are

latent from eternity is the *crux* of the problem. The former view is theistic, the latter either pantheistic or materialistic. The phrase must be interpreted consistently with other parts of the definition. If they imply a Creator as ordaining the "certain laws," the expression must be understood as consistent therewith. If Huxley's view that all is "a natural process," nothing supernatural, be accepted as the teaching of science, then God is ruled out at every stage of the process. Since scientists as a class do not accept the first chapter of Genesis, they are in desperation driven to hold that the universe has existed eternally, or that God created it in eternity, which is the old pantheistic identification of God, man and the universe. They therefore usually do not commit themselves under the pretext that science does not deal with "origins," though they are constantly "explaining" the origin of plants, animals, and man. It would seem, therefore, that science, if pressed, would be driven to hold that these "resident forces" were not created by Deity, but have been eternally present in the cosmos.

That the new or pseudo-evolutionism teaches that everything in the universe is the result of a natural, intrinsic, anti-supernaturalistic process is clear from other authorities. "We are bound, I think, carefully to distinguish these two views; the one (Laplace) regarding the universe, so far at least as we can know it, as a vast, automatic mechanism, and the other (Newton) regarding the laws of nature as but the instrument of nature's God" (James Ward, *Naturalism and Agnosticism*, I, 46). "That which we are confronted with at present is a naturalistic or scientific monism, in which one sole power works all things by a gradual evolution, and no distinction is made of man from nature or of God from the world" (W. L. Walker, *op. cit.*, p. 11). On the hypothesis that star-dust in the course of billions of years became mind and man, W. K. Clifford defined evolution as the

tendency of "the cosmic process to *personify itself.*" Professor Clifford, the brilliant English scientist, had the candor to state the natural conclusion from the scientific premises.

2. *Evolution as a Change from the Homogeneous to the Heterogeneous without the Intervention of God.*

Herbert Spencer's famous definition, adopted from Von Baer, runs thus: "Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation." The only point that merits special consideration here is the affirmation that evolution is a change from the homogeneous to the heterogeneous. As Spencer does not recognize a God, but at most only an *Unknown,* the whole evolutionary process must in his view be carried on from first to last by natural law. What is involved in Spencer's view? As seen above, there is a true evolution of the homogeneous, as of the flower from the root and the varieties of the horse and other animals. "A vegetable seed evolves or develops into a root or stalk; but the root and stalk are still vegetable. They are still homogeneous with the seed. . . . If anything mineral or animal, anything heterogeneous, should appear in this evolution of the seed and the bud, this would prove that it was no evolution. But pseudo-evolution postulates what true evolution denies; namely, that homogeneous substance transmutes itself into heterogeneous. It asserts that a homogeneous mineral by intrinsic force, slowly, by infinitesimal degrees, converts itself into a heterogeneous vegetable. Evolution is thus not a change of *form* but of *matter.*"[8]

[8] Homogeneous, according to the Century Dictionary, means "of the same kind; essentially alike, of the same nature; composed of similar

As we are here confining ourselves to what evolution is claimed to be and what it really is, without entering into a critique, we, remark merely that neither Spencer nor any one else has ever proved that the homogeneous transmutes itself into the heterogeneous. Delage and Goldsmith in their great work on *"Theories of Evolution"* say: "The theory of evolution is closely allied with the theory of causality. . . . The law of the conservation of energy merely expresses the same truth in different words. . . . The theory of causality . . . eliminates from human speculations the supernatural or marvelous element, and compels man to seek explanations which admit of none but natural factors. It obliges him to create conceptions of the world which presuppose no miraculous act of creation, of creation from nothing. . . . One must reject *teleological* systems and consider causal explanations (natural) as the only satisfactory ones."[9]

3. *Evolution as a Creative Synthesis.*

Confusion has arisen from the failure to distinguish between creation absolute and creation relative, or creative synthesis. It is widely held by scientists that just as

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parts or elements." Heterogeneous means "different in kind; widely dissimilar; incongruous." An orange is heterogeneous as compared with an apple; a horse as compared with a lion; the one by nature never becomes the other.

[9] The original runs thus: "Prise dans son sens le plus large, l'idée de l'évolution est intimement liée à celle de la causalité; rien ne peut se produire sans cause, rien ne peut disparaitre sans laisser de traces; tout provient de ce qui précède et engendre ce qui suit. La loi de la conservation de l'énergie n'est qu'une facon différente d'exprimer la même vérité. La notion de causalité a une portée scientifique et philosophique immense, et cela tout d'abord parce qu'elle elimine de la pensée humaine **toute idée de merveilleux et de surnaturel** et l'habitue à chercher des explications dans les quelles **seuls les phenomenes naturels interviennent.** Elle l'oblige à créer des conceptions du monde où aucun acte de creation miraculeuse, de création aux dépens du néant, ne peut trover place. . . . Elle l'oblige maintenant à repousser les explications si faciles suggérées par le point de vue teleologique, et à ne reconnaitre pour satisfaisantes que les seules explications causales" (**Les Theories de l'Evolution,** p. 2).

man by utilizing matter and force can "create," so nature also "creates," creation and evolution according to Cope, being convertible terms ("the science of evolution is the science of creation"). But there lurks a fallacy here, as Bergson and others suggest. Ward in opposing mechanism and pluralism disposed once for all of the claim of creative synthesis in nature. "One thing is certain," he writes, "a strictly mechanical theory of the world, since it necessarily implies complete reversibility, can never explain what we understand by progress and development. . . . The so-called conservation of mass and energy might be regarded as symbolizing the initial state of the pluralistic world and as a symbolizing too the mere permanence and abstract being of its many units. But it is notorious that these concepts are the result of ignoring those differences of quality which alone convert units into individuals. Without these we may have *Erhaltung* but not *Entfaltung* as a German would say: "we may have conservation and indefinite composition but not development and definite organization."

Ward continues: "It will be granted that what synthesis creates in the practical world is not new entities but what we may call new values. Whatever be the ultimate meaning to be assigned to mass and energy, we may allow the bare conservation of this; in respect of it the new world would be only formative; there would be no new content. . . . It is doubtless a mistake to attempt to forcast the further course of evolution in detail; so far as synthesis is creative this must be impossible save within comparatively narrow limits" (*The Realm of Ends*, pp. 103, 109, 113).

4. *Evolution as Transformation and not New Formation; as Transformation of Germplasm.*

Another definition similar to the immediately preceding is that of Prof. E. G. Conklin, of Princeton Uni-

versity, who writes: "Evolution consists in new combinations of the elements of which organisms are composed and not in the formation *de novo* of such elements. . . . Every new thing is formed by new combinations of things already present [That is the assumed star-dust transformed itself into stars, planets, the earth, plant life, animal life, the ape, the ape-man, man]" (*The Direction of Human Evolution*, p. 9). It has long been known that when hydrogen and oxygen combine they produce something that is different from either, but the difference is relative not absolute, as Bergson would say. What the two elements produce is still in the realm of the inorganic. The so-called "creative syntheses" of chemistry and physics are merely new combinations and not new formations, as Conklin allows.

In the organic world, evolution is "transformation of germplasm," says Conklin. "The only living bond between successive generations is found in the germ cells, which extend back from us without a break to our earliest progenitors, and any evolutionary changes which are to transform races or species must take place in these germ cells." This is a subtle distinction necessitated by the Weismann-Bateson doctrine that acquired qualities are not transmitted, which means, as said Darwin, that unless acquired qualities are transmitted there is no evolution. Conklin now retreats to the position that evolutionary changes are not due to "developed bodies of plants and animals," but to "the germ cells, which are, potentially at least immortal" (p. 10). The question now arises, Whence these germ plasms originally? If by their inner constitution they are "immortal," undying, permanent, what would cause "changes" in them? Not environment, for Conklin himself says: "It is now practically certain that characters acquired by the mortal body are not inherited." Under this fatal and significant admission would it not follow that originally there were spe-

cies, types, genera, or families of germ plasms and that they have continued to remain so to the present? And yet by a strange inconsistency and without any attempt at proof, Conklin affirms "*progressive evolution* is the advance in organization from the simplest to the most complex organisms, from amoeba to man" (p. 16). It follows that man with his wonderful intellectual, moral and religious endowments and such personalities as Aristotle, Newton, Darwin, and Jesus the Christ, (merely man according to evolutionism) were contained in the amoeba germplasm. *Credat Judaeus Apella!*

5. *Evolution as Creative Service, or a Triumph of Constructive Agencies.*

Since no one knows what evolution is we are not surprised to find that evolutionists are very much in the position of a son of Erin, who, being asked, how he would vote, replied that he did not know, but it would be 'gin the government.' Our friends, the enemy, are likewise 'gin Genesis and the government of Almighty God. A capital illustration is afforded by Prof. W. Patten, Dartmouth College, who publishes an octavo book two inches thick on "*The Grand Strategy of Evolution.*" We have read of the grand strategy of Napoleon in the arrangement of his forces and have all along looked for the day when evolution would boldly be conceived of as a goddess, an entity, a personification of the forces of nature, and here we have it in black and white. We read: "I can discover no basic difference . . . between the end or purpose inherent to [in] all phases of vital action, and the purpose inherent to [in] all physical or natural phenomena. . . . Creation is the birth of new things through the mutual service of pre-existing things, [that is the universe of matter and force is a birth of pre-existing things] . . . "We may not correctly use the term Creative Evolution, for there can be no creation without evo-

lution, and no evolution without creation. The ceaseless flow of creative services is evolution, and evolution is serial creation" (pp. XI, 28, 29).

What is the difference between the contradictory phrase "creative evolution" and evolution as "serial creation"? Again, "Any basic concept of cosmogony must assume that there is some universal creative process back of evolution" (p. 32). Is "process" an entity or person that can create? For God Patten would substitute "process." Patten wages war against natural selection, mutations and survival of the fittest, and germ plasms as explanations of evolution. "They do not suggest how it, the thing was created, why it survives, or wherein its fitness lies" (p. 33 X). [Words fitly spoken.] "I shall try to show," says Patten," that there is but one answer to all these questions; that there is but one creative process common to all phases of evolution, inorganic, mental and social. That process is best described by the term cooperation, or mutual service." We had always thought that "service" has an ethical connotation and implies a person, but under Patten's view, atoms, ions, electrons are delighted to *render* each other service. This is poetry, but whether it is science, the scientists must settle among themselves.

We fear that Prof. Patten is rather severe on his fellow biologists in saying that "the rapid growth of evolutionary doctrines" has led to "the widespread worship of a new God, a fictitious Nature-God, created by the biologists in the image of their own distorted mentality" (p. 52)." "A fictitious Nature-God"! "distorted mentality of biologists"! Ought not the American Association for the Advancement of Science to appoint a special committee, with Osborn, and Conklin at the head, to investigate such outrageously outspoken language?

(D) CONSENSUS OF OPINION ON THE REAL IMPORT OF PSEUDO-EVOLUTIONISM.

Lest the foregoing characterization of the current pseudo-Evolutionism be challenged we add further proof from accredited sources. According to the Standard Dictionary, "Evolution is the cosmological theory that accounts for the universe and its contents by the combination of separate and diffused atoms existing originally in a condition of absolute homogeneity." This is simply the Spencerian idea of homogeneity passing into heterogeneity. But how such a transition takes place through mere natural law, neither Spencer nor any one else has ever explained or even offered an intelligible hypothesis.

Ernst Haeckel, the great German naturalist, accepting Darwinian evolutionism, considered himself justified in drawing the logical conclusion of crass materialism and atheism. He holds that the whole universe is a machine, in which the various parts are continually renewing themselves through endless cycles of time. He is careful not to state that this idea ignores the accepted laws of mechanics and physics, that a self-starting, self-continuing machine, or "perpetual motion," is an impossibility. Not content with limiting his conception to physical nature, he unblushingly holds that man is a mere automaton, has no free will and is determined in all his acts by ancestry and environment. His doctrine is known as *energetic monism,* the view that ultimately there is only one substance in the universe, namely force or energy.[10]

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[10] Distinction between monotheism and monism: according to monotheism, God is the only God, but not the only being; according to pantheism he is the only being and the only substance and is identified with the universe and all in it. The term monism, from the Greek word denoting one has lately come into extensive use in a wide divergence of meanings. The spiritual or ethical monism of Strong and Walker is practically monotheistic. At the other extreme is cosmic or energetic-monism, which is practically atheistic.

The English psychologist, James Sully, co-author of the article "Evolution" in the Encyclopedia Britannica, writes: "It is clear that the doctrine of evolution is directly antagonistic to that of creation. Just as the biological doctrine of the transmutation of species is opposed to that of special creations, so the idea of evolution as applied to the formation of the world as a whole is opposed to that of a direct creative volition. . . . It (evolution) substitutes the idea of a natural and necessary process for that of a volitional process," that is, mind, intelligence, personality, God are excluded in the doctrine of evolution as expounded by its champions.

CHAPTER IV

PROOFS OF EVOLUTION.

Having described the various uses of the term evolution, we proceed to consider briefly the arguments usually relied upon to prove the modern form of the doctrine. They are naturally of a varied character and different degrees of cogency, but are reducible to some half dozen types of thought.

As seen above, Darwin and later evolutionists do not start at the beginning, but after evolution has once been started either through divine creative acts, or through some assumed force or power operative from eternity. If evolution is to be, as we are told, a universal organizing principle to explain nature, force, life, soul, religion, one would naturally expect some account of the origin of the laws operative in the evolutionary processes. Evolutionists, however, generally waive a consideration of such questions and are concerned chiefly with the manner in which living organisms have assumed actual forms. A discussion of evolution under present conditions is like writing a history of the World War by a description of events after it had gotten well under way and without an inquiry into the causes leading to it. But we must accept the situation.

It is urged that races, genera, species originated by the same law and forces operative in the individual, or expressed in more technical language: "Phylogenic (race) evolution insists upon the direct evolution of forms in no other way than, as in ontogeny (individual), offspring are derived from parents, and consequently grades all actual affinities according to propinquity or remoteness of genetic succession." Or in the language of

Huxley and Spencer, evolution in biology is "a general name for the history of the steps by which any living being has acquired the morphological and physiological characters which distinguish it, or a passage from unorganized simplicity to organized complexity, such process being regarded as of the nature of a growth" (*Century Dictionary*). All is regarded as a purely natural process.

NO SPONTANEOUS GENERATION.

It is of prime importance to understand what is implied in the initial stages of organic evolution. According to evolutionism, plant life originated by the action of a force or forces upon inorganic matter, all being a natural and intrinsic process. This alleged phenomenon, known as "spontaneous generation," was supposed actually to have taken place, but numerous experiments have exploded the idea. And yet the evolutionist must accept the fallacy or lose his case. "Evolution teaches, that beginning with protoplasm derived by spontaneous generation from inorganic matter, the process of evolution, acting through secondary agencies alone, has, from this primordial protoplasm by ordniary generation and by processes strictly natural, but in no case supernatural, derived the countless multitudes of vegetable and animal species that have appeared on the earth. The primordial protoplasm was the parent from which all organic beings have descended" (A. Fairhurst, *Organic Evolution Considered*, p. 50).

But read Lord Kelvin's view: "Was there anything so absurd as to believe that a number of atoms, by falling together of their own accord, could make a sprig of moss, a microbe, a living animal?...It is utterly absurd... Here scientific thought is compelled to accept the idea of creative power. Forty years ago I asked Liebig... if he believed that the grass and flowers, which we saw around us, grew by mere mechanical force. He answered, 'No

more than I could believe that a book of botany describing them could grow by mere mechanical force," *(London Times)*. Speaking to a class of Medical Students, Kelvin said: "Let them not imagine that any hocus-pocus of electricity or viscous fluids would make a living cell. . . Nothing approaching to a cell of living creatures has ever been made. . . No artificial process whatever could make living matter out of dead."

In the above review we have in mind, not so much materialists and unbelievers, as men who claim to be theists, and yet allow God little or no share in creating the physical universe, plant and animal life, and man.

Although evloutionists adduce a great variety of arguments, the chief lines of proof are reducible to four, as follows: Comparative Anatomy, Embryology, Paleontology and Genetics (Experimental Breeding). We consider them in this order.

A. Comparative Anatomy.

Plants and animals can be arranged in groups according to resemblances, based on an examination of a large number of individuals. Thus in the case of vertebrates we find striking resemblances. The same general plan is seen in the forefoot of the rat, the elephant, the horse and the oppossum. So in the case of the lizard, the frog, and even, though less directly, in the fins of fishes. It is even alleged that the hand and the arm of man are similar to the hand and arm of the ape.

(a) Remarkable similarities of structure.

The non-professional man and especially young persons not accustomed to note differences as well as resemblances are thoroughly convinced that some connection exists between these different types and that possibly or probably one is a descendant of the other. But such a

view is uncritical in a high degree, as may be seen from some examples.

Anatomists have carefully examined a species of fruit fly known as Drosophila ampelophila and have found over 125 types that breed true. "Each has arisen independently and suddenly. Every part of the body has been affected by one or another of these mutations. For instance many different changes have taken place in the wings and several of these involve the size of the wings. . . . The order in which these mutations occurred bears no relation to their size; each originated independently from the wild type. . . . No one familiar with the entire evidence will doubt for a moment that these 125 races of Drosophila ampelophila belong to the same species and have had a common origin, for while they may differ mainly in one thing, they are extremely alike in a hundred other things and in the general relation of the parts to each other" (T. H. Morgan, *A Critique of the Theory of Evolution).* Morgan adds: "It is the resemblances of plants and animals that form the basis of an argument for evolution; and not because we can arrange in a continuous series any particular variations."

It is to be observed here that similarity is not identity; if that were true, it would follow that the rat, the horse and the elephant were ultimately the same, a palpable absurdity. I have a Roman nose; am I, therefore, a Roman; you, curly hair and thick lips; are you, therefore, an African?

(B) QUESTION OF SPECIES IMPLIED.

Although there has been great discussion whether species change, or whether new species arise, a widely accepted definition is that of Le Conte, namely, "If the two kinds breed freely with each other, and the offspring is indefinitely fertile, the kinds are called varieties, but if they do not they are called species."

The stock argument of evolutionists is, that if we knew more of extinct forms of life we could recover the missing links; but this is a mere supposition. In fact Charles Darwin wavered between contradictory views. In the first volume of *The Variation of Animals and Plants*, he says: "We may conclude that at least all the members of the same class have descended from a single ancestor" (p. 15). But in the second volume of the same work we read: "According to the belief now generally accepted by our best naturalists, all the members of the same order or class, for instance, the Medusae or the Macrourous crustaceans, are descended from a common progenitor" (p. 450). It is thus an open question according to Darwinian evolution, whether all the members of an order, class, or genus, or only of a species have a common parentage.[1]

(c) OTHER EXAMPLES OF SIMILARITY.

Prof. W. B. Scott, in his *"Theory of Evolution,"* reproduces under the head of Comparative Anatomy, a number of striking resemblances between animals. Comparing the horse and the ox, we find that in both, the fore leg is exclusively locomotive in function. There are other points of resemblance, but yet we see two slightly different modes of converting the primitive, five-toed and mobile anterior limb into structures which are purely locomotive in function. All this, however, and a great deal more that might be adduced does not prove that the ox and the horse were originally the same animal.

Scott points out remarkable similarities between the ox and the horse on one hand and man on the other.

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[1] Indeed Prof. Mac Bride, says: "Darwin hesitated to assert that such different phyla as Arthropoda, Mollusca, and Vertebrata, are descendants of a common type of ancestor. He rather inclined to the belief that if life appeared on this globe by a process which we know nothing about, it may have appeared simultaneously in several forms whose descendants remain as the different phyla today" (**Zoology**, p. 67).

Thus "the same elements are present in the human hand and arm as in the fore leg of the horse and ox, but in each case characteristically modified to serve different ends. Man's hand is really a very primitive and undifferentiated structure and can be put to a great many different uses. Had it been highly specialized for a single purpose, human progress and civilization would have been impossible, for these have always depended upon the co-ordination of hand, eye and brain" (p. 46.) Here again, with some rather remote similarity, we discover widely different structure and function, but little that indicates identity or sameness of origin.

Examining the families and orders of the Crustacea, Scott shows that "there is a great variety in the number of segments which are united to form the head and trunk, as well as in the form and function of the appendages. . . The comparison immediately suggests the derivation of all the Crustacea from ancestors in which all the segments, except the head, were similar and were provided with appendages which were similar throughout. As this group or that advanced in differentiation certain appendages became specialized for the better performance of particular operations." Examples of a similar character might be adduced from all the great divisions of the animal kingdom, and the principle of numerous modifications of a common plan adapted to a great variety of habits of life established. But the objection has been urged that such diversification of a single type of structure is no proof of a genetic connection, or community of descent, and that the connection is purely ideal, *the manifestation of a creative plan.* Scott allows that here the belief in a creative plan is not excluded. If this be granted a long step is taken in the direction of the general outline of creative work and design revealed in Genesis I.

Scott adds significantly: "Another and perhaps weightier objection is that comparative anatomy gives us

no means of connecting animals of fundamentally different types or plans of structure. It is impossible to derive a fish from a lobster, or a starfish from an oyster and thus the different structural types would seem to be separated by impossible barriers. Evolution *within the type* might be admitted, without conceding the possibility of deriving one type from another" (p. 54.) Scott admits that the only answer is that, there being no direct or even indirect proof of such astounding transformation, we must fall back on the old and ever ready assertion that if only the record were complete such metamorphoses would be proved, which view is not science, but the boldest guess-work.

(D) OTHER PHYSICAL DIFFERENCES BETWEEN MAN AND HIGHER ANIMALS.

Alfred R. Wallace, the famous English scientist, holds that the difference between man and animals is unaccountable through natural selection or any evolutionary process. He writes: "The inference I would draw from this class of phenomena is that a superior intelligence has guided the development of man, just as man guides the development of many animal and vegetable forms" *(On Natural Selection.)* Wallace cites the following peculiarities as objections to the evolution of man from the ape; the absence of a covering of hair from man's body, for if evolved it must have been from animals that had a hairy covering, and the loss of covering would be of no use to man in the primitive state. Again the hair is thickest on the backs of the lower animals, while it is almost entirely absent from the back of man. The loss of the hairy covering in man cannot be accounted for on evolutionary principles.

The quadrumana go on all fours horizontally, or in a more or less stooping posture, while man walks upright. By no process of development could the ape or gorilla

change the structure of their frame to the upright attitude of man. "Acquiring an upright position could not have been useful to man in his assumed low condition as he emerged from the animal, and consequently such a change cannot be explained by natural selection" or an evolutionary process. Further, all the quadrumana use the big toe as a thumb, while man cannot use it in that way. Further, the human hand is far more highly organized than is necessary to meet the demands of rude savages, and therefore natural selection fails to account for the existence of this highly perfect organ" (Fairhurst, *Organic Evolution,* p. 232.)

Wallace also claims that the powers of the human voice have not been produced by natural selection, for savages are not accustomed to sing, but to howl and make unpleasant sounds.

Prof. Virchow writes: "There exists a definite barrier separating man from the animal which has not yet been effaced—heredity, which transmits to children the faculties of their parents. We have never seen a monkey bring a man into the world, nor a man produce a monkey. All men having a simian appearance are simply pathological variants. . . All races formerly supposed to retain their primitive inferior, ape-like condition, have been the objects of minute investigation and are found to have organizations and powers similar to our own. Thus the Eskimo head and that of the Terra del Fuegians belong to the perfected types." The same is found to be true of people and tribes recently discovered in Thibet and other remote and until recently unexplored portions of the globe. They are all members of the human family, and not man-monkeys, pro-anthropes or connecting links.

What Dana, the geologist, wrote fifty years ago is still true: "Man's origin has thus far no sufficient explanation from science. His close relations in structure to the Man-Apes are unquestionable. They have the

same number of bones with two exceptions, and the bones are the same in kind and structure in general. The muscles are mostly the same. Both carry their young in their arms...But the divergences, especially the cases of degeneracy in man's structure, exhibited in his plantigrade feet, and the primitive character of his teeth, allying him in these respects to the Lower Eocene forms, are admitted proof that he has not descended from any existing type of ape. In addition, man's erect posture makes the gap a very broad one. The brute, the ape included, has powerful muscles in the back of the neck to carry the head in its horizontal position, while man has no such muscles, as any one of the species can prove by crawling for awhile on 'all fours.' Beyond this, the great size of the brain, his eminent intellectual and moral qualities, his voice and speech, give him his sole title to the position at the head of the Kingdom of Life" *(Manual of Geology,* p. 1036). He believes with Wallace "that the intervention of a Power above Nature was at the basis of Man's development."

(E) THE ANATOMY OF MAN AND APES.

Evolutionists make much of the real or apparent resemblance between the anatomical structure of man and the apes. The resemblance, however, is of the most general character. Contrary to the popular view, Huxley and other eminent scientists of his day and of ours, do not regard the case as settled. Huxley left no doubt that in his view the structural differences between man and apes were many and great. He writes: "I find that those who endeavor to teach what nature so clearly shows in this matter, are liable to have their opinions misrepresented and their phraseology garbled until they seem to say that the structural differences between man and even the highest apes are small and insignificant. Let me take this opportunity then of distinctly asserting, on the contrary,

that they are great and significant; that every bone of a gorilla bears marks by which it might be distinguished from the corresponding bone of a man; and that in the present creation, at any rate, no intermediate link bridges over the gap between Homo and Troglodydes" *(Cyclopedia of Science.)* Note the significant language, "every bone of a gorilla distinguished from the corresponding bone of man." This is strong language from a distinguished evolutionist.

In his work, *"Evidence of man's Place in Nature"* Huxley enters into a number of details regarding anatomical differences between man and apes, which on account of a widespread misconception of facts we reproduce at some length. We condense his statements, using as far as possible his own language. Huxley held that the "ape which most nearly approaches man, in the totality of its organization, is either the chimpanzee or the gorilla" and as in his view the gorilla stands nearest man, he selects the latter for comparison. "In the general proportions of the body and limbs there is a remarkable difference between the Gorilla and Man, which at once strikes the eye. The Gorilla's brain-case is smaller, its trunk larger, its lower limbs shorter, its upper limbs longer in proportion than those of man."

Huxley having entered into a detailed comparison of the vertebral column, arms, legs, hands, etc., of the Gorilla and Man as also of Gibbons, Orangs, and other similar orders, concludes that in whatever proportion of its limbs the Gorilla differs from Man, the other Apes depart still more widely from the Gorilla and that consequently, such differences of proportion can have no ordinal value. Huxley next considers more in detail the back-bone, the ribs and pelvis, or bony hip-basin of Man and the Gorilla respectively.[2]

[2] In "Man the spinal column as a whole has an elegant S-like curvature, being convex forewards in the neck, concave in the back, convex in

(F) CONCLUSIONS OF THE SPECIALISTS HAMANN AND BAUMUELLER.

Prof. Otto Hamann, in his great book, "Die Abstammung des Menschen," which is largely a treatise on the structure of the human body compared with that of the ape, shows from the testimony of eminent specialists the similarities and the differences (the latter being very marked.) He says: "The more or less upright position of the body of the anthropoid apes depends mechanically upon causes fundamentally different from those which apply in the human body. . . The upright walk of the ape depends for the most part upon muscular work. In the human body on the contrary, the connection of the head with the spinal column is where the spinal marrow enters from the skull throughout the aperture at the back of the head into the spinal column."

Hamann adds: "Baumueller, in his thorough treatise upon the thigh of man and of the ape, has laid stress upon the distinction, that man goes upon his feet without the use of his arms for support or balance; that body, thigh, and lower part of the leg lie as it were in a line, and that the axis of length takes a vertical position to the level ground. The ape on the other hand, even the gibbon, cannot stand upright like man. Even when he raises himself, the thigh and leg never stand in a line, but the thigh forms with the body and the lower part of the leg, and the latter again with the level ground, a greater or smaller angle. . . . Were the ape to stretch his leg like a man neither safe walking nor standing would be possible to

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the loins and concave again in the sacral region; an arrangement which gives much elasticity to the whole backbone and diminishes the jar communicated to the spine, and through it to the head, by locomotion in the erect position." "Man occasionally possesses thirteen pairs of ribs, but the Gorilla sometimes has fourteen pairs, while an Orang-Utang skeleton in the Museum of the Royal College has twelve dorsal and five lumbar vertebrae as in Man. On the other hand among the lower Apes, many possess twelve dorsal and six or seven lumbar vertebrae, and a Lemar has fifteen dorsal and nine lumbar vertebrae."

him. . . . On that account no ape can even temporarily walk upright, that is, like a man."

Evolutionists of all shades have only vague answers to such questions. Darwin in his "Descent of Man" attributes the loss of hair covering partly to a warm climate, partly and mostly to Sexual Selection, an hypothesis discarded even by his followers. Schwalbe suggests that as bareness of skin could be no advantage to man, but rather a disadvantage, it could not have been brought about by natural selection.

So far then as anatomical structure goes the difference between man and the apes is so marked that the chasm has not been bridged thus far.

B. Embryology.

We now take up the evidence for evolution from embryology. This is a study of the development of the organism from its beginning in the egg to its maturity in the adult. It is divided into two branches: *Ontogeny*, the development of the individual; and *Phylogeny*, or the history and development of the race or species.

(A) The Embryological Method and Claim.

This is a hotly contested field, and evolutionists are not agreed as to the chief factors. A generation ago the "recapitulation theory," or the view that the development of the individual is an epitome of the history of the species or race, was in great favor. Haeckel regarded it as the fundamental biological law. It is seriously questioned to-day in some scientific circles. A few objections may be recorded.

1. *Objections.*

(1) Length of Incubation.

Only three weeks and a few days of incubation are required for a speck of protoplasm in a hen's egg to

develop into a chick able unerringly to distinguish a grain of wheat from a pebble. On the other hand millions of years are required (according to evolutionists) for the development of fishes, amphibians and reptiles into birds, and millions of years more for the development into mammalia and man. Here recapitulation is out of the question.

(2) ANIMALS IN LARVAL STATE.

Some animals "pass through a larval state of development, in which the immature young leads an independent and self-sustaining existence, during which it is very different in appearance and structure from its adult parent. Familiar instances of this mode of development are to be found in the tadpole, which is the larva of the frog, and the caterpillar, the larva of a butterfly....In this way many changes are introduced into the ontogeny which can have no phylogenetic significance. It is found in several known instances that nearly allied species, living under different conditions have quite different modes of ontogeny, though their ancestral history must have been substantially identical." (Scott, *The Theory of Evolution*, p. 59).

One must therefore distinguish sharply between factors of long inheritance (palingenesis) and those introduced in response to changing needs. "Ontogeny, accordingly," says C. Gegenbaur, "becomes a field in which an active imagination has full scope for its dangerous play, but in which positive results are by no means everywhere to be obtained. To attain such results, the palingenetic and cenogenetic phenomena must be sifted apart, an operation which requires more than one critical grain of salt."

Prof. E. B. Wilson in Wood's Hole Biological Lectures, 1894, writes: "It must be evident to any candid observer, not only that the embryological method is open to

criticism, but that the whole fabric of morphology so far as it rests upon embryological evidence, stands in urgent need of reconstruction. . . It is largely to an over-weening confidence in the validity of the embryological evidence that we owe the vast number of the elaborate hypothetical phylogenies which confront the modern student in such bewildering confusion. The inquiries of such a student regarding the origin of any of the great principal types of animals involve him in a labyrinth of speculation and hypothesis in which he seeks in vain for conclusions of even an approximate certainty."

Prof. Scott, from whom we cite the preceding, adds: "Many other equally vigorous and well-deserved criticisms of the embryological method might be cited" (p. 62.)

2. *Other Chief Arguments from Embryology.*

Here as elsewhere evolutionists make much of similarities, real or apparent. Thus says Scott: "It is a very remarkable fact that all of the vertebrated animals, fishes, amphibians, reptiles, birds, and mammals, however different their habits and modes of life, have a mode of ontogeny which is of even more characteristically and unmistakably the same plan than is the type of their adult structure. . . Not only is the plan and type of development essentially similar throughout the whole phylum of the vertebrates, but in accordance with the recapitulation theory, many structural features which are permanent in lower forms appear in the embryos of higher and more advanced types. In the latter, however, these features are transitory and in the course of development, sometimes unrecognizable, in the adults" (p. 64.)

In this connection Scott states a few points which we shall have occasion to examine more fully later on. He writes: "At a certain stage of the ontogeny the embryo of a mammal has gill-pouches like a fish, the skeletal sup-

ports of the gill-pouches, the arteries and veins which supply them with blood, the structure of the heart, in short, the entire plan of the circulatory system is fish-like. At a later stage most of the gill-pouches have been obliterated, but one is retained and converted into the Eustachian canal, which connects the throat with the middle ear, inside of the ear-drum. Similarly, the embryological evidence shows that the lungs of air-breathers have been derived from the swim-bladder of fishes, a conclusion which had already been reached by comparative anatomy, for in a remarkable group, known as the Dipnoi or lung-fishes, the air-bladder is utilized for purposes of respiration." (p. 64.)

Again, "All available evidence points to the conclusion that birds are descended from reptiles, a conclusion which is especially strengthened by the facts of paleontology....Such a descent explains many otherwise puzzling features in the ontogeny of birds, in which reptilian characteristics appear in transitory fashion and are either modified so as to take on typically bird-like character, or are suppressed altogether. A remarkable example of this is the formation of rudimentary teeth in certain embryonic birds, followed by their resorption and disappearance before hatching" (p. 71.)

3. *Blood Tests.*

Another argument for evolution is claimed to be that derived from blood tests, which have been extensively carried on in recent years. There are several methods of making such tests, but the so-called "precipitation method" serves our purpose quite well. On account of its legal and scientific interest the test can best be explained by taking human blood.[3]

[3] Into the blood solution a few drops of the anti-serum are conveyed and, if the stains are of human blood, a white precipitate is formed and thrown down, but if the stains are the blood of some domestic animal,

Such blood tests have been employed to determine the degrees of relationship between different animals, but the method is successfull only in those of the same species.

Scott writes: "It must not be supposed that there is any exact mathematical ratio between the degrees of relationship indicated by the blood tests and those which are shown by anatomical and paleological evidence. Any supposition of the kind would be immediately negatived by the contrast between the blood of mammals and that of birds. It could hardly be maintained that an ostrich and a parrot are more nearly allied than a wolf and a hyena and yet that would be the inference from the blood tests. Like all other anatomical and physiological characters the chemical composition of the blood is subject to change in the course of evolution and these developmental changes do not keep equal pace in all parts of the organism. . . The results of blood tests must be critically examined and checked by a comparison with the results obtained by other methods of investigation, but after every allowance has been made, the tests are very remarkable" (p. 80.)

(1) NO BAD SYMPTOMS IN ANIMALS CLOSELY RELATED.

The blood test is of doubtful value for other reasons. It is "a well-known fact that if the blood of one class of vertebrates, especially of mammals, is injected into the veins of other animals symptoms of disease appear, in consequence of the decomposition of the red corpuscles of one kind of blood by the serum of the other kind. No such consequences follow when the two kinds of animals are closely related. The blood of a dog is poisonous to other mammals, wherefore it follows that the dog and other mammals are not related by blood." (McCann, *God or*

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such as a pig, horse, fowl, no reaction follows" (p. 75). In some countries, notably Germany, this test has been adopted by the courts of justice and has been found extremely useful in the detection of crime.

Gorilla, p. 127.) From this, important consequences follow. "Not only the blood but the blood serum of the sheep, goat and horse when inoculated into other animals, including man, are followed by reactions quite as feeble as those traceable to the inoculation of the ape with the blood of man." (McCann.) For this reason, the sheep, goat and horse, are used in the preparation of serums employed in medicine. Strict evolutionism would require us to hold that sheep and man, goat and man, horse and man are related by blood. Another strange fact is that according to Dr. L. D. Bulkley, Senior physician of the New York Cancer Hospital, "It is impossible to inoculate human cancer into apes." He further shows that animal tumors cannot be inoculated into animals of a different species and that even rats and mice are immune to human cancer.

(2) ASSES' MILK AND HUMAN MILK.

It has been proved that of the milk of all animals, human milk more nearly resembles ass's milk. "Here the resemblance is marked not only by quantitative analysis, but by the fact that human milk, like ass's milk, leaves no residue of nuclein or paranuclein on digestion, and the casein of both produces an alkaline reaction." Hence some Dairy companies keep a stock of milk of asses in order to supply ass's milk for delicate human babes.

If one were inclined to treat so serious a matter ironically he could say that man is more nearly an ass than an ape. Mare's milk comes next.

(B) THE RECAPITULATION THEORY EXAMINED.

Darwin and many evolutionists make much of embryology and the recapitulation theory. Others throw doubt on this whole line of argumentation. Prof. T. H. Morgan says: "Today it (the theory) is taught in practi-

cally all textbooks of biology." Haeckel called this interpretation the Biogenetic Law.[4]

1. *Weismann's Theory of Germinal Variation.*

Recent investigations have however, tended to undermine Haeckel's law. "At the end of the last preceding century Weismann injected a new idea into our views concerning the origin of variations. He urged that variations are germinal, i. e. they first appear in the egg and the sperm as changes that later bring about modifications in the individual. The idea has been fruitful and is generally accepted by most biologists today. It means that the offspring of a pair of animals are not affected by the structure or the activities of their parents, but the germ plasm is the unmodified stream from which both the parents and the young have arisen. Hence their resemblance. . . This idea of germinal variation therefore carried with it the death of the older conception of evolution by superposition" (Morgan, *op. cit.* p. 18.)

2. *Theory of Discontinuous Variation (Bateson and de Vries.)*

Morgan writes: "In more recent times another idea has become current, mainly due to the work of Bateson and de Vries—the idea that variations are discontinuous.[5] Such a conception does not fall easily into line with the statement of the biogenetic 'law;' for actual experience with discontinuous variation has taught us that new characters that arise do not add themselves to the end of the line of already existing characters, but if they

[4] In 1909 Chamberlin and Salisbury wrote: "It is a well established law of embryology that animals, in the early stages of their development, pass through a succession of changes in which their structure resembles that which their ancestors had in their maturity" (**Geology**, p. 501). All this is now challenged.

[5] This undermines the evolutionistic principle of absolute continuity. Unless continuity be proved, the current evolutionistic doctrine of a gradual, natural, intrinsic ascent from the lowest to the highest, is doomed.

affect the adult characters they change them without, as it were, passing through and beyond them. I venture to think that these new ideas and this new evidence have played havoc with the biogenetic 'law' " (pp. 18-9).

3. *The Theory Discredited by Prominent Scientists.*

In the volume, *Darwin and Modern Science,* Prof. A. Sidgwick, of Cambridge University, opposes the theory that the embryo is a recapitulation of the history of an organism and says: "If it could be shown . . . . that ancient and extinct forms of life present features of structure now only found in embryos, we should have a body of facts of the greatest importance. But, as Huxley has shown, and as the whole course of paleontological and embryological investigation has demonstrated, no such statement can be made. . . So that the facts, as we know them, lend no support to the theory" (p. 174.)

The article *Embryology* in the *Encyclopaedia Britannica* contains the following crushing criticism of the recapitulation theory: "When we look at the facts upon which it is based, we find that they are non-existent, for the ancestors of all living animals are dead, and we have no means of knowing what they were like. It is true there are fossil remains of animals which have lived, but these are so imperfect as to be practically useless for the present requirements. . . . . The ordinary explanation is purely a deduction from the evolution theory." In other words, scientists argue in a circle, proving recapitulation from evolution and evolution from recapitulation.

Professor V. L. Kellogg says: "The proof that man is descended from a fish because he has gill-slits at one period in his individual development is not of the sort to rely on too confidently. . . . The recapitulation theory is mostly wrong" *(Darwinism To-Day,* p. 18.) "There is no parallelism between the ontogeny and the phylogeny of either a bird or any other animal whatever. A seem-

ing parallelism will fall through when closely examined" (C. H. Hurst in *Natural Science.)*[6]

4. *Alleged Vestigial Organs.*

An exceedingly perplexing question is that of useless or apparently useless organs. All readers of Darwin will recall that he made much of this in support of his theory; but the facts cut both ways. Some hold that the possessors of such organs "are descendants of ancestors in which those organs were functional" (Scott.) Others affirm that apparently useless organs "may nevertheless have functions which are still unknown to us and may be revealed by future discovery." What is to be said of vestigial organs? Professor J. A. Thomson writes: "It must be frankly admitted that many of the examples that used to be given of the re-assertion of long-lost ancestral characters were insufficiently criticised, and the list of so-called reversions has been remorselessly thinned by the more modern students of inheritance" *(The Wonder of Life.)* In his book on Heredity, Thomson sharply criticises the tendency of biologists to treat some characteristics as reversions.

Some scientists have seen in 'hare-lip' an argument for evolution, but high authorities scoff at the mere suggestion. "There is no reason to interpret the abnormality in man as a reversion; it is an arrest at a stage which is normally passed through" *(Thomson.)*

5. *Alleged Useless Organs.*

Turning now to the alleged useless organs we find that the argument for evolution is even less cogent than in the preceding case. It has been found that some of

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[6] Substantially the same position is taken by F. W. Gamble in **The Animal World.** "**Man is at no time a fish,** an amphibian, or a reptile." E. Wasmann, in **Modern Biology writes:** "The individual development of a creature is not an abridged recapitulation of the history of the race." So, too, even Hertwig, Koken, His, von Bischof, Karl Vogt and others.

these are really not useless, but are of great importance in bodily functions. Thus E. S. Goodrich in his *Evolution* writes: "Some years ago it might have been held that such organs in man as the thyroid gland, the pituitary gland, the suprarenal glands, and others, are useless structures, functional vestigial remnants. They are now known to be of the greatest importance, altering the composition of the blood, or secreting substances essential for the regulation of the processes of metabolism. He would be a rash man indeed who would now assert that any part of the human body is useless" (p. 68.) Indeed Darwin himself wrote: "I am convinced that very many structures which now appear to us as useless will hereafter be proved to be useful" *(Descent of Man,* p. 92.)[7]

6. *The Vermiform Appendix.*

Something must be said of a subject on which much has been written, but very little known with certainty. In his *Descent of Man,* Darwin says: "Not only is it useless, but it is sometimes the cause of death; this is due to small hard bodies, such as seeds, entering the passage and causing inflamation." Others have held similar views. But Dr. Arthur Keith, who has written extensively on the subject, is of a contrary opinion. He writes: "Unfortunately we do not know the uses of the Appendix... We seem to be dealing with a change in structure of exactly similar nature to those degenerative changes which we have already noted in the teeth, jaws and throat. In their case it seemed most likely that their change in form

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[7] Virchow gives a fair statement of the case: "The human organism, especially in the embryonic stage, is distinguished by many features that have been borrowed, not from the monkey only, but from other animals. . . Bearing this in mind we have become more circumspect in our reasonings upon individual or racial analogies between man and animals. . . All the researches undertaken with the aim of finding continuity in progressive development have been without result. There exists no proanthropos, no man-monkey, and the 'connecting link' remains a phantom" **(Popular Science Monthly).**

is a result of diet, and it seems very probable that the same statement will yet be proved to be true in the case of the Appendix." Keith shows that our modern dietary is at the bottom of the trouble and often renders an operation necessary.

Here the question of rudimentary, vestigial and useless organs comes up again. In the human body, organs called 'rudimentary" fulfill important functions. "The thyroid gland, the thymus gland, and the pineal gland used to be classified as Rudimentary organs. Today a new school of medicine has developed as a result of the discovery of the significance of these glands to metabolism and the maintenance of physiological equilibrium" (McCann, p. 125.)[8]

Why Inflamation Results in Disease.

But, asks the evolutionist, why should there be an inflamation of the appendix resulting in disease? An eminent German pathologist, Prof. G. Bier, established the thesis that "inflamations are not instances of inexpediency, but are, on the contrary, beneficial prophylactic devices on the part of an organism to rid itself of bacteria or other injurious matter that may have penetrated the system. A splinter driven into the flesh and left alone will be driven out again by inflamation and pus, most expedient and beneficial" (McCann, op. cit. p. 123.)[9]

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[8] Some evolutionists go to the extreme of asserting that the vermiform Appendix is a remnant of the much longer intestine of the Trinal Ape-Man and the Piltdown Ape-Man. They even fix the length of such intestine. This, which they call science, is of course downright balderdash. On the other hand "many physicians are beginning to recognize the fact that appendicitis, a diseased appendix, is the result of hypercivilization, refined foods, overmilled flour, demineralized breakfast foods and excessive meat-eating and not at all due to the so-called rudimentary character of the appendix" (McCann).

[9] In answer to the claim that an obliteration of the cavity of the appendix is a process of involution, Dr. Joseph Koch demonstrated that these "obliterations are to be regarded solely as consequences of previous disease. He based his observations on two hundred operations. Further

7. *Fish Gills and the Human Ear.*

Some evolutionists hold that there is no possible explanation of certain stages in the development of man unless they be regarded as repetitions of earlier race evolutions. The so-called branchial arches and clefts in the human embryo are adduced as proof. "They occur to the number of four in all mammals and to the number of three in all human beings. In fish they develop eventually into real branchial arches and real branchial clefts. In the case of man the first branchial arch becomes the ear. The others undergo involution, or they form other organs, the bones of the internal ear, etc. (McCann, p. 112.)

The fallacy of any argument for evolution here is shown by E. Wasmann, who says: "The so-called branchial arches and clefts are merely curves and folds of the pharynx which are quite unimportant in themselves, and eventually develop into something bearing no resemblance to real branchial arches and clefts. They are in fact PHARYNGEAL ARCHES AND CLEFTS." Other evidence of a like tone is available. Here again a superficial resemblance is made the basis of sweeping assertions as to the relation of man to the lower orders.

8. *The Human Eye.*

Another problem is that of the human eye. It, too, is held by scientists generally to be an evolution. But, says Arthur Brisbane: "How did blind creatures of the earliest life develop eyes and the complicated machinery of vision? Evolution, survival of the fittest, struggle for existence, adaptation to environment and all other formulae do not explain that any more than they could explain an electric fan or a Kodak."

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proof of the accuracy of these observations was produced by Dr. L. Aschoff after one hundred and three vermiform appendices had been placed at his disposal.

Darwin himself was baffled by that truly marvelous organ. Referring to Virchow's appreciation of its beautiful crystalline lens, he says: "To arrive at a just conclusion regarding the formation of the eye, with all its marvelous characters, it is indispensable that the reason should conquer the imagination; but I have felt far too keenly to be surprised at others hesitating to extend the principle of natural selection to so startling a length" (Origin of Species.) Then follows the famous phrase "... a living optical instrument as superior to one of glass, as the works of the Creator are to those of man."

According to the Biblical view the eye was made for seeing; evolutionism has turned this around and affirms that since there was need for seeing, creatures made eyes for themselves, which view implies the entire absence of design in the universe and world and reduces everything to a dead level of "fortuitous concourse of atoms," as Huxley claimed.[10]

On this whole subject of embryology, we may employ the language of Carl Vogt, an ardent evolutionist: "It has been laid down as a fundamental law of biogenesis that the development of the individual and the development of the race must exactly correspond. This law which I long held as well founded is absolutely and radically false. Attentive study of embryology shows us, in fact, that embryos have their own conditions suitable to themselves, very different from those of adults. The development of the individual of all organic beings, without

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[10] The evolutionary hypothesis regarding the eye breaks down utterly, for Alexander Winchell describes the Trilobite, which goes back to the Silurian age, as having fully developed eyes: "With all, except the lower forms, the eyes are distinctly discernible, and even in these the places for the eyes are visible, and there is no reason to suppose that they were blind. In others the eyes are curiously compound like those of the common house-fly. . . Such eyes had the Trilobite" (**Sketches of Creation**). Chamberlin and Salisbury say: "That the trilobites sought their food or pursued their prey by sight, and were guided by touch, is implied by their eyes and antennae" (**Geology, p. 503**).

exception, is the normal result of all the various influences which operate upon such being."

Finally, the Holland botanist, J. P. Lotsy, rejects the alleged evidence of geology in support of organic evolution and says: "Phylogeny, *i. e.*, reconstruction of what has happened in the past, is no science, but a product of fantastic speculations" *(Evolution,* etc., p. 140.)

C. Paleontology.

(a) Views of geologists on the origin of the earth.

1. *Three Hypotheses.*

Geologists, like scientists generally, start, not with an absolute, but only a relative, origin of the universe. That is, they hold that the cosmos and our globe are in some sense eternal, and that everything, man included, is but an evolution of some latent force or energy. (It is this false use of the term evolution which we challenge.) Some of them, for reasons best known to themselves, retain the term God, but give Him little or nothing to do. (See discussion of the Leuba-questionaire below.) On the origin of the solar system and of our earth, geologists and astronomers are not agreed. There are three hypotheses:

(1) The Nebular or Gaseous hypothesis of Laplace, in which the parent nebula is assumed to have been formed of gas collected into a spheroid by gravity in accordance with the laws of gases, and to have been evolved into the present solar system by losses of heat, and the separation of the outer parts into planets.

(2) The Meteoritic hypothesis, propounded by the English astronomer Lockeyar, in which the parent nebula is assumed to have been a swarm of meteors, the members of which moved in diverse directions, and suffered frequent collisions, giving rise to heat, light and vaporization. The swarm of meteorites is thought to have be-

haved essentially as a coarse gas, and the evolution of the system to have been dynamically like that of the gaseous system.

(3) The Planetesimal hypothesis, originated by Prof. T. C. Chamberlin, in which the original constituents are assumed to have been small bodies, molecules or aggregates moving in orbits about a common center and forming a disk-like system. The bodies are supposed to have been controlled by revolution about the center of the nebula, and not by impact on one another. The evolution consisted in the gathering of these small bodies, planetesimals, into planets and satellites.[11]

2. *Nature of the Evidence from Paleontology.*

We now take up the evidence for evolution from paleontology. This is "the science which deals with the fossils of animals and plants entombed in the rocks of the earth. It has certain preeminent advantages for the investigation of evolutionary problems, because it has to do with the recognizable remains of the actual organisms which formerly inhabited the surface of the earth and which are themselves the links in the chain of development" (Scott, p. 62). Here, again, warning must be uttered, not to expect absolute proof, for serious difficulties are encountered:

(1) "Many types of animals and plants are not capable of preservation in the fossil state, or else are so ex-

[11] The third of these hypotheses is gaining in favor. At the meeting of the American Association for the Avancement of Science, in Cincinnati, December, 1923, Dr. Chamberlin elaborated his theory, saying: "Until recently geologists thought that the earth had inherited its heat from the time when it was a white-hot star. We now know that it is possible that most if not all the present heat of the interior of the earth is the product of transformations of substance now going on beneath the crust on which we live. . . According to this hypothesis, the earth never passed through a gaseous and liquid state, and need not be built up of a series of concentric shells of substance of different weight."

tremely rare and are found separated by such vast intervals of time, that their remains are of no practical assistance."

(2) "Of the innumerable fossil forms which have been made known, nearly all are but partially preserved, only the hard parts, bones, shells, etc., remaining," and the interpretation of these is difficult and doubtful.

(3) Darwin himself in a famous passage admitted "the imperfection of the geological record," saying: "I look at the geological record as a history of the world imperfectly kept, and written in a changing dialect; of this history of the world we possess the last volume, relating only to two or three countries. Of this volume only here and there a chapter has been preserved; and of each page only here and there a few lines" *(Origin of Species.)*

(B) THE GEOLOGICAL ERAS AND PERIODS.

In order to have a clear idea of the facts we give a sketch of the geological eras and periods in their bearing on the forms of life from the earliest to the latest times. We inquire whether there has been a gradual advance from the lower to the higher period without creative breaks, in short whether the fundamental dictum of the current pseudo evolutionism of absolute continuity and a change from the homogeneous to the heterogeneous is borne out by the records.

1. *Classification of Geological Eras and Periods.*

Of the various schemes of classification of the geological strata, the one given in Chamberlin and Salisbury's College Geology serves our purpose. It is, however, supplemented by data from Grabau and other standard works. As will be seen from the accompanying Chart, the successive Eras are the Azoic, Archaeozoic, Proterozoic, Peleozoic, Mesozoic, Cenozoic, and Quarternary.

Within the later of these eras are periods as indicated in the Chart.[12]

2. *Life in the Cambrian Period.*

There was no life at all in the Azoic Era and so little in the Archaeozoic and Proterozoic that they may be omitted here.[13] The chief periods of the Paleozoic era, Cambrian, Silurian, Devonian, Permian, yield varied forms of life. In the Cambrian period there are marine fossils, trilobites fairly well developed, with eyes. "There is no way of making a reliable estimate of the duration of the Cambrian period" (C-S). There is no standard by which either age or nature of fossils can be determined. Hence uncertainty everywhere. Geologists record facts that seem to militate against the evolutionistic dogma of gradual ascent from lower to higher forms. "Every great division of the animal kingdom, except the vertebrate, had its representative in the Cambrian times" (C-S, p. 495). This is a remarkable confirmation of Genesis I. According to Genesis plants came first; according to geology plants, the food of animals, came first or at least contemporaneously with animals.

Under the evolutionistic formula "the life of every past stage has grown out of that which immediately pre-

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[12] The usual classification of the earth's geological strata has always been challenged, but never as thoroughly as by Professor G. McC Price in "**Q.E.D.**, or New Light on the Doctrine of Creation," "The Fundamentals of Geology" and "The Fossils as Age-Markers in Geology" (**Princeton Theolog. Rev.** Oct., 1922). His arguments are overwhelming. We, however, think it best here, to accept provisionally the current text-book arrangement, accompanied by comments. Price shows that the Werner "Onion-Coat theory," according to which the different rocks were originally spread completely around the globe one outside the other like the coats of an onion, always greatly ridiculed, is at many points indefensible. He quotes Spencer as saying: "Though the onion-coat hypothesis is dead, its spirit is traceable under a transcendental form, even in the conclusions of its antagonists."

[13] According to Chamberlin and Salisbury, nothing is known of the duration of the Archaeozoic era. If the Planetesimal hypothesis be accepted "the duration of the Archeozoic era may exceed all subsequent time." The Proterozoic era extended over tens of million of years. A

ceded it," but since it has not yet been demonstrated that evolution proceeded slowly by very slight changes, "it may have proceeded by distinct and abrupt changes" *(op. cit.* p. 504.) This is in accord with the creative days, or periods of Genesis, but inexplicable on evolutionistic premises. Until evolutionists have proved that there was a continuous series of slow changes, they are estopped from making any such claim.[14]

3. *Life in the Silurian Period.*

In the Silurian period the forms of life were varied, consisting of marine invertebrates, trilobites, brachiopods, cephalopods, mollusks, articulates, etc. Already in the Silurian highly complex organisms are found, one of the most remarkable being trilobites with well-developed eyes, which confirms the Biblical representation that eyes were made to see rather than the evolutionistic dogma that seeing being required, eyes were formed spontaneously.[15] Cephalopods had simple eyes approaching the

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remarkable fact is, that, though the proofs of life in the Proterozoic are few "the oldest definite fossils yet found are forms well up in the animal kingdom and they occur (in Montana) 9,000 feet below the unconformity between the Proterozoic and the Cambrian." (Pp. 447, 467, 474).

[14] C-S stands for Chamberlin and Salisbury's College Geology. Grabau states the dilemma of scientists: "One of the most marked characteristics [of the Cambrian] is the abrupt appearance of a diverse and, in many respects, highly organized fauna in which **nearly all** of the classes except the verfebrates are represented." On the Biblical view such "abrupt appearances" were due to divine creation. Aware of this, Grabau states clearly the issue between Christian theism and science. "Only two explanations . . seem possible. Either these forms were created as such at the beginning of the Cambrian time and thereafter continued to evolve and become differentiated . . or the base of the Cambrian does not present the earliest record of life. . . . Recognizing the fact that **natural forces** have governed the development of organic forms throughout not only the Paleozoic but all subsequent time, and that **nowhere is there any positive evidence of the special creation of organic types**, we are forced to accept the latter view as the only tenable scientific explanation" **(Geology**, II, p. 536). Here, again, we have a definite proof that geologists as a class do not believe that God created life forms.

[15] With the withdrawal of the sea from the surface of North America and the increase of land, there was an increase of landlife, as Scripture testifies. There were echinoderms, crinoids, sponges and some verte-

human. The striking fact that in this early geological period, all the animal sub-kingdoms existed, except the vertebrates, is hard to explain on the evolutionary theory, for under that theory we should expect the higher forms toward the end of the series.

The great gulf existing between the radiates, mollusks, and invertebrates existed in the Silurian. So, too, in regard to the species. A strange fact, of which evolutionists can give no satisfactory account (although there are many hypotheses),[16] is that species ruthlessly appear and disappear, apparently without ancestors or descendants. Evolutionists are not agreed on the fundamental question whether the changes took place gradually through countless ages, or through sudden leaps, and so being in an awkward dilemma, it ill becomes them to claim "everything in sight."

4. *The Devonian Period.*

In this period there were many plants and some animals; the waters swarmed with life. Few, if any of the higher species of animals that existed in the Silurian, are found. "The known land life of the Devonian period consisted of plants, snails, myriapods, scorpions, and traces of amphibians; but the record of land life is very imperfect" (C-S). This predominance of plants and marine life over higher land forms looks more like devolution than evolution. And yet, says Grabau, "the most marked advance in life is shown in the presence of land vertebrates, whose footprints are found in the continental strata."[17]

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brates. But "following the luxuriant life of the mid-Silurian epoch, there came, in North America at least, a notable decline" (op. cit. p. 555).

[16] It is well known that "when a new species appears among fossils it comes as a well-defined species, and that it cannot be connected by transitional forms with any previously existing species" (Fairhurst, **Organic Evolution Considered**, p. 92).

[17] The question is whether the Eras and Periods given above really represent a true historical order. Or, in the language of Price, "did the

5. *The Carboniferous Period.*

The period from the close of the Devonian to the end of the Paleozoic was formerly known as the Carboniferous; Chamberlin and Salisbury prefer the terms Mississippian and Permian, but for convenience we retain the old word. There was no radical break in the succession of life. There were crinoids, brachiopods, mollusks, gastropods, a few trilobites, some corals and many sharks, but only a few air-breathing animals. "The record of land life is poor. . . Ancient and relatively modern types of cephalopods lived together." In that case where the evolution? There was great destruction of life at the close of the Paleozoic, only a few remains being extant. But "it is known that some species bridged the interval, and it is believed that others underwent modifications which enabled them to live" (C-S). Oh! that animals could now undergo 'modifications' so as to enable them to survive!!

The features, however, which characterize the Carboniferous period and suggest the name are the immense coal-beds, occasioned by the emergence of the land and a prolific vegetation. "With the increase in land, plant life spread far and wide and extensive coal swamps came into existence. These were heralded during the Devonian, became more pronounced in the Mississippian, and culminated in the Pennsylvanian, which was probably the greatest coal-forming period the world has ever seen" (Grabau, *Text-Book of Geology,* Part II, p. 475).[18]

Cambrian forms of life live and die long ages before those of the Devonian, and the latter long before the Cretaceous forms? . . . We may safely conclude that there is no a priori method of defending the idea that the Cambrian animals lived and died before the Devonian or the Cretaceous."

[18] Sir J. W. Dawson says: "The Carboniferous forests did not live in vain, if their only use was to store up the light and heat of those old summer days in the form of coal, and to remove the excess of carbonic acid from the atmosphere" (**Some Salient Points in the Science of the Earth,** p. 251). Quoting Huxley's eloquent apotheosis of Nature, ending

6. *The Triassic Period of the Mesozoic Era.*

In the first or Triassic period of the Mesozoic era, varieties of fish and birds of great size and number (now extinct) flourished. Although the Permian and Jurassic periods had something in common, "there was a great break in the succession of land life, so far as the record shows. What became of the Permian vertebrate faunas of North America is unknown, for . . . there are great thicknesses of red sandstone barren of fossils of all sorts. . . The amphibians had lost the foremost place they held in the Permian. . . But they entered upon a rapid decline, from which they never recovered. . . The strange ancestral reptiles evolved rapidly. . . . The crocodiles, the flying saurians, and the scaled reptiles came in near the close of the period, as some of the older types were disappearing" (C-S, p. 692).

A marked peculiarity was the advent and rapid evolution of the dinosaurs (terrible saurians). They were at first of generalized types, but later became more specialized, and diverged widely. "Of peculiar interest is the appearance of early forms of non-placental mammals. . . In view of the mammalian dominance in later times, it is noteworthy that the non-placentals developed but slowly and feebly during the Mesozoic era."[19]

7. *The Jurassic Period.*

The Jurassic period is characterized by the continued dominance of ammonites, the rejuvenation of corals and

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with "Thrifty Nature, surely no prodigal, but the most notable of housekeepers," Dawson comments thus: "All this is true and well told; but who is Nature, this goddess who, since the far-distant Carboniferous age, has been planning for man? Is this not another name for that Almighty Maker who foresaw and arranged all things for His people 'before the foundation of the world?' " p. 253).

[19] Of the land life Grabau says: "This included insects, amphibia, and dinosaur reptiles. . . . The land flora was rather meager; not more than 400 species are as yet known (150 American) and these consist mostly of ferns, cycads and conifers. The most characteristic were giant ferns" (op. cit. p. 641).

crinoids, the marked development of sea-urchins and great sea-serpents. The land vegetation was little more than a continuation of the late Triassic. Little is known of the North American land faunas. At the close of the period there appeared dinosaurs, which "attained remarkable size and diversity. . . . . There were not only carniverous types, . . . but numerous herbiverous forms." Some of these creatures attained enormous size, sixty feet in length and possibly more.[20]

8. *The Cretaceous Period.*

On account of the immense chalk deposits which followed the extinction of life at the close of the Jurassic, this period is known as the Cretaceous. The term, however, is strictly applicable only to a relatively small part of the Upper Cretaceous. Various plants and animals flourished; of the former, birch, beech, oak, walnut, sycamore, maple, oleander, etc.; of the latter, terrestrial types similar to the preceding period. Aquatic reptiles seem to have made greater progress than the terrestrial forms. The dinosaurs still retained the leading place. There were turtles, snakes, lizards, crocodiles, and flying reptiles. Terrestrial birds existed, but the mammals thus far recovered indicate little advance upon those of the Jurassic. In fact, mammals played an inconspicuous part. The ichthyosaurs and plesiosaurs existed at this time.[21]

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[20] "The marvelous deployment of aquatic and terrestrial reptiles and of birds makes the scanty record of the mammals all the more singular. Only a few jaw bones of the size of those of mice and rats have been found. These low types are referred, without complete certainty, to marsupials. They appear to have been insectiverous" (C-S, p. 726). Again, we ask, Where is the evolution?

[21] While the plesiosaurs attained a high degree of development, the ichthyosaurs became nearly extinct. Instead of an advance to a higher order of vertebrates, there was a retrogression to invertebrates. One may well ask, Where is the evolution? The fishes and birds of that period are now mostly extinct, and reptiles were succeeded by chalk formations. There is in fact a 'great gap' between the Cretaceous and the following period, the Eocene.

The abundance of marsupial (pouch) mammals in the Jurassic and of placental (vascular appendage of fetus) in the Eocene, would imply the existence of marsupials and mammals in the Cretaceous. It is, however, a remarkable fact that in the enormous deposits of the Cretaceous only a few placental mammals have been found. One may well ask, How then could the highly organized placental mammals of the Eocene period be evolved from the Cretaceous marsupials? No explanation is forthcoming.[22]

9. *The Cenozoic or Tertiary Era; Eocene Period.*

The era following the Mesozoic is the Cenozoic (New Life), the first period of which is the Eocene. Marked peculiarities were the appearance of new species in place of the Cretaceous, disappearance of the great saurians, and rise of placental mammals. It is not known whether the placental mammals of North America rose from the non-placental or were marsupials.[23] Upon the whole "it is difficult to carry our conception of mammals back to the Eocene prototypes, without carrying with them distinctions which did not then exist..... The mammals of the earliest Eocene, as now understood, included several vaguely differentiated groups, in which existing orders were foreshaded rather than represented..... In general the mammalian faunas of the early Eocene were closely similar to those of Western Europe" (C-S, p. 787).[24]

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[22] The birds differ considerably from those of the preceding period. But the most remarkable departure from the preceding ages is the prominent place which the **rhizopods** or **foraminifers** (invertebrates) take in the record. "They made large contributions to the chalk of the period" (C-S, p. 770). "The contrast between the organisms of the two ages [Paleozoic and Mesozoic] as a whole is most **startling**" (Grabau, p. 740).

[23] "The rise of placentals may have caused the downfall of the reptiles, though this cannot be affirmed. The habit of bringing forth relatively mature offspring, and of nourishing and protecting them, gave the mammals an immense advantage" (C-S, p. 785).

[24] The argument for evolution from geology hinges on the answer to the question Whether "the formations, or groups of fossiliferous strata,

Concerning the Primates (Quadrumana) it is to be noted that "no traces of apes have been found in the Eocene, but representatives of the lower primates, the lemuroids, appeared in the Wasatch epoch in America, and in a similar horizon in Europe." The apes are supposed to be descended from the early lemuroids. Geologists are perplexed at the absence of placental mammals in the later Cretaceous and the abundance of marsupials. Whence the Eocene Mammals? It looks like devolution rather than evolution.[25]

10. *Miocene Period.*

In this age are reptiles and quadrupeds, as lizards, deer, apes, beavers, etc. "Most of the mammalian genera and nearly all the species were new and more modern." True carnivora, cat and dog families, abounded. A notable addition in America were the proboscidians, (elephant, etc.,). There were tapirs, rhinoceroses and many carnivores. Among primates, the highest order of mammals included apes, monkeys, lemurs, chimpanzee and gorilla. The record throws no light on the origin of the Hominidae. There was a great variety of ungulates (hoof), both odd- and even-toed. Many varieties of carnivores.

Here again some troublesome questions arise. The

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always occur in the same relative order of sequence relative to one another all over the globe?" (Price). In Tennessee, Mississippi and Alabama, the Cretaceous strata "overlap the Paleozoic, and in Georgia they rest on the more ancient crystallines" (Schuchert, Textbook). Similar conditions exist in the greater part of Mexico, Central America, Jamaica, and Cuba. Price cites evidence from the Canadian Annual Reports to the effect that the Lower Cretaceous lies over the Lower Carboniferous, omitting the Triassic and the Jurassic, contrary to what one would expect according to the current classification.

[25] Dana refers to the difficulties in the way of evolution. "Another strange fact is that although the marsupials of earlier time had become variously specialized, their placental successors should have had unspecialized or prototype characters. . . . It is remarkable, too, that so great a diversity of mammals, diversity in structure as well as size, should have appeared before the Eocene period had passed" (**Geology**, p. 928).

statements of Chamberlin and Salisbury and of paleontologists generally concerning the slow development of the placentals in the Triassic period, the scanty record of marsupials in the Jurassic, the unimportant part played by the placental mammals in the Cretaceous, their sudden appearance in the Eocene and the precedence of ungulates in the Miocene seem inexplicable on evolutionistic principles of continuity. "The history of marsupials does not warrant the assumption that placental mammals can be evolved from them. When Australia was discovered, two monotremes, many marsupials, but no true mammals, except bats, were found there. These marsupials, according to the theory of evolution, were isolated before true mammals were evolved. They have, therefore, had in Australia an opportunity extending over millions of years to show their capacity for becoming placentals, but not one of them, so far as we know, has ever advanced beyond the marsupial condition" (Fairhurst, *op. cit.*, p. 136). In other words, once a marsupial always a marsupial.

11. *Pliocene Period.*

The distinguishing feature is the predominance of terrestrial deposits and of the relatively small number of fossils. The latter are chiefly land plants and animals. Of plants there was "a further sorting out of the mixed flora of previous periods." Great interest centers in the history of the mammals. Strangely enough there was "a culmination and perhaps initial decline of the placentals, the human and domestic species aside" [though this latter statement may be challenged]. There were sloth, ant-eaters, armadillos and strange hoofed animals of orders unknown elsewhere, and remarkable South American mammals (including monkeys). Among the mammals herbivores occupied a prominent place, odd- and even-toed ungulates and giant proboscidians (elephants,

mastodons). The carnivores throve and perhaps outnumbered the herbivores.

But in all this we discover no near approach to the human species except the unsupported claim that some fossil and skeletal remains of apes, gorillas or chimpanzees are those of men or men-apes. See further in Chapter VI.

12. *Pleistocene or Glacial Period.*

For convenience we designate the last era the Quarternary, divided into the Pleistocene or Glacial and the Recent or Human periods. The distinguishing feature of the Glacial period is the extensive glaciation, or ice-sheets, covering, according to the common geological view, but challenged in some quarters, six to eight million square miles of the earth's surface, where previously mild climates had prevailed. More than half the glaciation was in North America. Proof of the ice-formations is afforded by the drift, surface of the rock underlying it, and relation of the drift to its bed. A striking characteristic of the drift is its heterogeneity, one end sometimes made up of bowlders, the other of impalpable earthy matter. The distance which the ice-formations and glaciers moved is in dispute, but probably on an average not more than fifty miles.

The drift ranges from several feet to five hundred. The rock surface beneath the drift is either polished, grooved or striated. The force or forces producing and moving such enormous quantities of material must have been independent of the rock formations. The causes, duration and indeed various features of the glaciation have occasioned great diversity of opinion among specialists.[26]

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[26] Alexander Winchell writes: "There has been no continental glacier. There has been no uniform southerly movement of glacier masses. There has been no persistent declivity as a **sine qua non**, down which glacier movements have taken place. The continuity of supposed continental

That which concerns us especially is the extent to which plant and animal life was affected. Obviously in the regions covered there was almost total destruction of terrestrial animal life, except in so far as animals could escape the oncoming glaciers. The greater part of Europe was buried under ice. At least half of North America was submerged to the depth of many feet and in places miles.

The Life of the Pleistocene Period.

Chamberlin and Salisbury remark that the glaciation "destroyed much life and caused great change in that which survived" and though "more than half the known species of marine Pliocene Invertebrates are still living . . . .the land vertebrates were very generally replaced by new species," that is the old had died out, but whence the new species came is not known definitely. In order to account for the 'new' or post-glacial types of animal life evolutionists resort to various expedients, some emphasizing numerous and extensive 'migration,' others taking refuge in the view that the successive glacial epochs enabled many animals to escape and thus become the progenitors of new forms.

Whether man existed in the Pliestocene period is a hotly contested question, which we discuss in another connection. See Chapter V. It suffices to note here that Chamberlin and Salisbury write that the discussion of man's presence in America in glacial times disclosed weaknesses both in the evidence and in the interpretations put upon it, with the result that man's antiquity in America is a more open question to-day than it was

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glacier was interrupted in the regions of the dry and treeless plains of the west; and in the interior and Pacific belts of the continent within the United States, ancient glaciation was restricted to the elevated slopes." J. W. Dawson takes a similar view: "The writer and those with whom he has acted in this matter, have never held that icebergs alone, or fields of ice alone, have produced the Pleistocene deposits" (**Some Salient Points in the Science of the Earth**, p. 376).

thought to be fifteen years ago" *(op. cit.* p. 923). But during the fifteen years since these statements were made various sorts of material, chiefly skeleton remains, have been discovered and complicate the question more than ever. Grabau (1921) does not hesitate to affirm man's presence not only in the late, but even the early Pleistocene period, in short in the first of the half dozen glacial epochs. (See Chapter V).

Recognizing the uncertainty of much of the traditional geology, the more open-minded British and Scotch scientists admit the collapse of current evolutionism. Thus A. G. Tansley, in the Presidential Address before the Biological Section of the British Association in 1923, points out the weakness of the fossil argument and regards the search for common ancestors among the plants as "literally a hopeless quest, the genealogical tree an illusory vision" *(Nature,* March 8, 1924). And in the same issue of *Nature,* Professor F. O. Bower of Glasgow University writes: "At the present moment, we seem to have reached a phase of negation in respect of the achievements of phyletic morphology, and in conclusions as to descent.... I believe that a similar negative attitude is also to be found among those who pursue zoological science." In *Nature,* April 26, 1924, Professor A. C. Seward, Cambridge University, writes: "The present tendency is to discard the old-fashioned genealogical tree, with its wonderful diversity of branches," because...."a student who takes an impartial retrospect soon discovers that the fossil raises more problems than it solves."

(c) SIGNIFICANCE OF THE GRADUAL ADVANCE OR DEVELOPMENT.

At this point we encounter two rival theories of the gradual advance and development in the order of life. According to the Biblical account and the older authorities, especially of the Guyot-Dana school, the various breaks

and forward movements were viewed as indicating creative stages, God being regarded as creating or inaugurating new eras. But it was always held that the preceding eras or periods were preparations for the next succeeding, not in the evolutionistic sense of producing the succeeding, but in that of a necessary stage in the so-called creative days, God's creative days in which an absolutely new thing or force was introduced by Almighty Power. (See Chapter II). The other view is that all the successive eras and periods were but later developments of the life already present from the first. But it has been objected that the appearance of unheralded organisms such as "the remarkable outburst of modern types of plants and fishes in the upper Cretaceous period" (Scott, p. 93), is irreconcilable with the evolutionary hypothesis. See all this fully explained in Charts I and II.

Scott explains as follows: "The appearance in any given area of new forms may either be through the modification of older forms which previously inhabited that area [but this does not conform to the Mendelian law] or by immigration from some other region." The history of the elephant is said to illustrate this. Since the elephant is not found in Europe until the Miocene epoch, it is concluded from a series of eliminations that Africa was the original home of these animals. This again is an inference from insufficient data, as shown in chapter on Assumptions and Postulates, etc. See Excursus.

Another objection to the evolutionary hypothesis, is that, while there is development within relatively small groups, "the fossil record fails to connect the larger and more widely separated types," and that accordingly, evolution is of limited possibilities. The objection is met by the claim that "most of the principal types of animal life were already differentiated at the date of the most ancient known fossiliferous rocks." But this fact is construed by the other school as indicating that all the essen-

CHART II.

GEOLOGICAL ERAS AND PERIODS.

Based on Grabau, Chamberlin and Salisbury, and Encyclopedia Britannica.

Eras	Periods	
Azoic		No Plants or Animals.
Proterozoic		Crustaceans; several genera of worms; possibly brachipods.
Paleozoic	Cambrian	Plants and trilobites; marine life; new species; "Every great division of the animal kingdom, except the vertebrate, had its representatives in the Cambrian period" (C—S).
	Silurian	Trilobites; brachiopods; many articulates; marine invertebrates; various types of fishes; many highly complex organisms; trilobites with well-developed eyes. The gulf existing today between radiates, mollusks and invertebrates existed in the Silurian.
	Devonian	Many mollusks; "shells closely resembling living genera" (C—S); some trilobites; absence of fishes; plants, snails, insects, scorpions, traces of amphibians; some relation between arthropods and vertebrates (C—S).
	Carboniferous	Immense forests exuding sap (petroleum); intense heat; modern coal beds, e. g. in Pennsylvania; mollusks and fish; few air-breathing animals; few trilobites; ancient and relatively modern cephalopods; great, but not complete destruction of life at end of Paleozoic. Of 10,000 species of animals at beginning of Carboniferous only 300 at close.
		GREAT GAP.
Mesozoic	Triassic	Fish, birds of great size, now extinct; gigantic reptiles, crocodiles, flying saurians, dinosaurs, ichthyosaurs, plesiosaurs; rich marine faunas in places; non-placental mammals.
	Jurassic	Reptiles which could swim or fly; dinosaurs; sudden extinction of higher forms and later appearance of new ones.
		WHERE THE EVOLUTION?
	Cretaceous	Chalk formations; plants; numerous dinosaurs; saurians; some carnivora; snakes, lizards, flying reptiles; vertebrates; invertebrates; mammals, few in number, show little advancement upon the Jurassic; the fish largely ancestral and some of them not yet extinct; sea-urchins quite abundant; gastropods have a modern appearance; few placental mammals, but abundance of marsupials (a riddle).
		ANOTHER GREAT GAP.

Cenozoic	Eocene	Era of modern life; "The age of mammals" (C—S); new species in place of the Cretaceans; rise of placental mammals, their origin in dispute; "many deformative movements hard to explain"; primitive horse; no traces of apes; numerous whales; disappearance of land reptiles and of great saurians of Cretaceous period; one of the greatest contrasts of geological history; how could the Eocene mammals be evolved from the Cretaceous marsupials? Many foraminifers, small shell fish, "the most striking feature of marine Eocene life."
	Miocene	True carnivora; cat and dog families; elephants, tapirs, rhinoceres; new mammalian species; apes and monkeys, chimpanzees and gorillas; great variety of ungulates (hoof); high orders of mammals; lemurs; no direct record of Hominidae.
	Pliocene	Fossils rare, except of earlier periods; giraffe, mastodon, rhinoceres; no remains of lemuroids in North America. Three features: immigrations, divergence between Old and New World types, culmination and initial decline of placentals, except domestic species. "Close of Pliocene a time of great deformation."
		GREAT GAP.
Pleistocene or Glacial		Ice-sheets covering six or eight million square miles; nearly half in North America; most of Europe buried under ice; marine bowlders; thickness of glaciation two to five thousand feet. Duration uncertain, from five to forty thousand years. Great destruction of plant and animal life.
Quarternary or Age of Man		River alluvia; lake deposits; raised beaches; sand dunes; fertile soil. Earth ready for man.

tial forms of life were created in the early eras and periods.[27]

(D) THE ANCESTRY OF MAMMALS.

Here, again we enter a hotly contested field. Scott writes: "The ancestry of mammals is still a question of much uncertainty and zoologists continue to debate whether they were derived from reptiles or amphibians, a state of affairs which Prof. Steinmann regards as scandalous to science, but there are good reasons for the uncertainty. Mesozoic mammals are very rare and, though they have been found in three continents, the specimens are all so incomplete that they contribute but little to a solution of the problem. Certain reptiles obtained from the Permian rocks of South Africa decidedly suggest that they were closely allied to the long sought ancestors of the mammals, but the gap is still too great for any final decision" (p. 98).

This is a remarkable statement coming from a recent and authoritative source and ought to caution us not to accept any statements to the effect that the whole evolutionistic position has been established at all points.

(E) THE HISTORY OF THE HORSE AND "THE HOBBY-HORSE."

It is claimed that the most complete series among the families of mammals so far discovered in the successive

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[27] A noteworthy fact is that in some regions the strata are actually in an order the reverse of what is expected by the ordinary geology, that is, are **upside down.** They are called "thrust faults." Price argues that we must take such cases at their face value and that contravenes the current classification. "This, in essence, is the entire point of difference between my position and that of other geologists. These cases of 'thrust faults' in reality constitute the very crux of all modern discussion of geological theories,—I might almost say the crux of all modern discussion about organic evolution." **(Princeton Theolog. Rev.,** Oct., 1922). It has never been explained why in the eastern United States and eastern Tennessee the Lower Silurian lies on top of the Carboniferous. Various other cases might be cited.

stages of the Tertiary period is that of the horse; friends and foes alike call it "the parade horse," "the hobby horse," "the stalking horse, etc." The whole subject is involved in doubt and confusion.

According to the current view, the Eocene horse, which was about as large as a fox, had four toes in front and three behind; the Miocene horse had three toes and a splint in front, and three behind; the Pliocene horse gradually lost the two toes at the side, until they were represented by splints, leaving only the middle toe as in the horse of to-day, (Fairhurst).

It is a question whether the horse was evolved, as indicated above. Le Conte says: "About thirty-five or forty species of this family, ranging from the earliest Eocene to the Quarternary, are known in the U. S." But how do we know that the Miocene horse of three toes did not exist in the Eocene, and that the Pliocene horse of only one toe did not exist in both the Miocene and Eocene? Under any view the known record is regarded as insufficient and so neither side has a decided advantage.

In fact Sir J. W. Dawson, the famous geologist and paleontologist, thoroughly exposed the usual evolutionistic line of proof, saying: "In America a series of horse-like animals has been selected, beginning with the Eohippus of the Eocene, and these have been marshalled as the ancestors of the fossil horses of America.... Yet all this is purely arbitrary, and dependent merely on a succession of genera more and more closely resembling the modern horse, being procurable from successive Tertiary deposits often widely separated in time and place. In Europe on the other hand, the ancestry of the horse has been traced back to Palaeotherium—an entirely different form —by just as likely indications, the truth being that as the group to which the horse belongs culminated in the early

[28] Dawson adds: "Both genealogies can scarcely be true, and there is no actual proof of either. The existing American horses, which are of

Tertiary times, *the animal has too many imaginary ancestors.*"[28]

This is a complete refutation of the whole hypothetical genealogy of the horse found in the average textbooks on geology and evolution.

Again, no evolutionist has ever undertaken to explain how creatures developing along separate lines could be brought together, and form one species. Darwin held it as a fundamental law that the *same species* could not be produced twice over "if even the very same conditions of life, organic and inorganic, should occur."

Has the Horse Descended from the First Ungulate, Eohippus?

The common evolutionary doctrine is that the horse descended from the first ungulate, that is from the group of hoofed (Lat. *ungula,* hoof) mammals including elephant, mammoth, mastodon, rhinoceros, giraffe, deer, camel, ox, sheep, goat, buffalo. How is it to be supposed that this ungulate developed from a non-ungulate mammalian ancestry? It is all an assumption built upon slender data and imagination. "To devolop all these from one original," says Prof. Gerard, "through a graduated series in each case by the infinitesimal process of descent with modification, would require a period of time inconceivably long—immensely longer than that required to change one ungulate into another."[29]

European origin, are, according to the theory, descendants of Palaeotherium, not of Eohippus; but if we had not known this on historical evidence, there would have been nothing to prevent us from tracing them to the latter animal. This simple consideration alone is sufficient to show that such genealogies are not of the nature of scientific evidence" (**Mod. Ideas of Evolution,** p. 119).

[29] Gerard continues: "Ungulates are a highly specialized type of mammal and although they walk on the nails of five toes instead of on the hoof a vast process of evolution would be required to bring them even to this point from which all mammals are said to have started. There must also have existed, while this development was in progress, a teeming and multitudinous mammalian life—, as raw material for its operation—and of this at least some trace should remain" (but there is none whatsoever).

Practically the final word on the failure to base an argument for heterogeneous evolution on the history of the horse is supplied by the great French scientist, Charles Depéret, Member of the Institute, in his Transformation of the Animal World. On pages 74-5 and 106 -7, describing all the early and intermediate forms of the horse and finding "no gradual transition," but "distinct and parallel branches," he concludes: "The supposed pedigree of the Equidae is a deceitful illusion." This is the *coup de grace* of the horse argument. In fact, however, Professor Osborn allows 'the *multiple* nature of horse evolution.'[30]

The stalking-horse argument for evolution has recently collapsed entirely. In the fall of 1924 the metropolitan press contained an account by Mr. John T. Reid, a mining engineer of Lovelock, Nevada, of the finding of a one-toed horse-foot in a cretaceous bed, a large foot, implying a large horse. As scientists affirm that only a four-toed horse about the size of a rabbit existed in this early period, the discovery knocks the evolutionistic contention into "smithereens."

Though the best alleged example of evolutionary development is furnished by the horse, evolutionists adduce other proof from paleontology in the case of the tapir, rhinoceros, camel and reptiles. The line of proof, is however, indirect and labors under the difficulty of inductive proof generally, namely, limited number of examples.

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[30] Depéret's exact words are: "L'observation géologique établit du reste, d'une manière formelle, qu' il n' existe aucun passage graduel entre ces genres; le dernier **Palaeotherium** etat étint depuis longtemps, **sans se transformer**, lors qu'est apparu le premier **Anchitherium**, et ce dernier avait à son tour disparu, et sans **modification**, avant d' être brusquement remplacé' par l' invasion des **Hipparion.** La **pretendue filiation** des Equides est une apparence trompeuse, que-nous donne seulement le **procede general** par lequel une patte tridactyle d'Ongulé peut se transformer, dans des groupes divers, en une patte monodactyle, en vue d'une adaptation à la course; mais elle ne nous éclaire nullement sur d'origine paléontologique des Chevaux" **(Les Transformations du Monde animal).**

(F) DIFFICULTIES IN THE PALEONTOLOGICAL ARGUMENT.

Palentologists in fact, cannot show the actual ancestors of living forms, because, "if in the past, genera and species were as abundant and as diverse as we find them at present, it is very improbable that the bones of any individual that happened to be preserved are the bones of just that species that took part in the evolution" (Morgan, p. 24). Paleontologists admit this, but claim nevertheless that even though the actual ancestors are unknown, the arguments are sufficiently valid in general.—Another violation of the laws of inductive logic.

"Paleontologists have sometimes gone beyond description and attempted to formulate rules and principles. But my good friend, the paleontologist, says Morgan, "is in greater danger than he realizes when he leaves description and attempts explanation. He has no way to check up his speculations and it is notorious that the human mind without control has a bad habit of wandering."

The geneticist has learned two facts: namely that "the gaps in some cases are enormous as compared with the single changes with which he is familiar, and (what is more important) that they involve numerous parts in many ways. The geneticist says to the paleontologist, since you do not know and from the nature of the case can never know, whether your differences are due to one change or to a thousand, you can not with certainty tell us anything about the hereditary units which have made the process of evolution possible. And without this knowledge there can be no understanding of the causes of evolution" (*ibid*, p. 26).

In other words, unless the extant specimens are shown to be types, the conclusion is illicit.

D. GENETICS, HEREDITY AND EXPERIMENTAL BREEDING.

The fourth field in which arguments for evolution are sought is that mentioned above. The old name for this

study is heredity, still preferred by some authorities. Among the biological sciences this study occupies a central place. It has both practical and theoretical value; practical, because in the industrial arts of the breeder of plants and animals it supplies valuable information; theoretical, because it aids us in the solution of problems relating to species.

Though one may approach the study of genetics from many sides and angles, "it is especially in their bearing on the problem of the evolution of species that the facts have hitherto been most profitably investigated. It was in the attempt to ascertain the interrelationship between species that experiments in genetics were first made" (Bateson, *Mendel's Principles of Heredity*, p. 2). Even before Darwin's time, men were seeking "to determine the laws of hereditary transmission with the purpose of discovering the interrelationship of species... They attempted by experiment to ascertain those hidden properties of living things which we may speak of as genetic properties which breeding tests alone can reveal.... Yet in surveying the work we are conscious of a feeling of disappointment at the outcome" *(ibid)*.

The study has taken an uncommonly wide range, including in recent times a re-examination of the question of the cell, protoplasm, nucleus, embryo, Mendelism and related subjects.

(A) OFFSPRING LIKE THEIR PARENTS.

It is a common observation that individuals are to a certain extent like their parents; a child may resemble its father or mother, or one of its grandparents; there are resemblances and differences. The extent to which peculiarities of individuals may be transmitted is of deep interest to every one; and a solution of the problem would go far toward settling the question of evolution. The

results of experimentation are partly favorable, partly unfavorable to evolution.[31]

If it could be shown that acquired peculiarities could be transmitted indefinitely, plants and animals of an entirely new species might arise. But that is the question. Charles Darwin declared that if acquired characters are not transmitted there are no new species, and if no new species, no evolution. This brings us to the question.

(B) WHAT IS A SPECIES?

The first attempt to define a species was made by Linnaeus, according to whom "there are as many species as there were forms created in the beginning." Even allowing that the word "forms" may have here a wide latitude of meaning, the thought is that species are fixed and unchangeable. Evolutionism on the contrary holds that, since, as Darwin claimed, there were at first only three or four forms, and since there is constant change from the simple to the complex, there are, in fact, no species at all, but only families and kingdoms of life... And yet the term persists in the literature of science and must be defined. Huxley defined thus: "A species is the smallest group to which distinct and invariable characters can be assigned." Species is a middle term between genus and individual and only the latter has a concrete existence, species like genus being abstract terms. The *Century Dictionary* defines: "The individuals of thoroughly distinct species do not interbreed, or, if they are near enough to hybridize, their progeny is usually infertile, so that the cross is not in perpetuity; the horse and ass offer a good

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[31] "Plants are very susceptible to extensive modification through external influences . . .; and these modifications will continue as long as the external conditions remain the same, but disappear when the plants are once more placed under the original circumstances" (Scott, **The Theory of Evolution**). The French botanist Bouvier took plants from the lowlands to the mountains, where they became more vigorous. When taken back to the lowlands, the plants returned to the original type. This law, known as the Reversion to Type, is universal.

case in point." A shorter definition is Le Conte's: "If the two kinds breed freely with each other and the offspring is indefinitely fertile, the kinds are called varieties, but if they do not they are called species."

It has been found that investigators may be classed under two heads: the "splitters" and the "lumpers," the former insisting upon minute distinctions and thus increasing the number of species, the latter grouping such distinctions together and thus reducing the number of species. A decade or two ago the "splitters" had things pretty much their own way, but at present the "lumpers" are in the saddle.[32]

The extremes to which the "splitters" went is illustrated by David Starr Jordan, the leading American authority on fishes. He writes: "In our fresh-water fishes, each species has been described as *new* from three to four times, on account of minor variations, real or supposed. In Europe, where the fishes have been studied longer and by more different men, upwards of six or eight nominal species have been described for each one that is now considered distinct...The common Channel Catfish...has been described as a new species not less than *twenty-five times*." It is generally allowed that the number of species of animals is not nearly so large as formerly supposed.

(c) ARE THERE NEW SPECIES?

Another important question is: Are there new species? If there have been no new species, intrinsic or continuous evolution is bankrupt. It is now well under-

[32] Bateson writes: "We may be certain that numbers of excellent species universally recognized by entomologists or ornithologists, would, if subjected to breeding tests, be immediately proved to be analytical varieties, differing from each other merely in the presence or absence of definite factors" (op. cit., p. 284). To the same effect Heilprin: "It is practically certain that numerous forms of life, exhibiting no distinctive characters of their own, are constituted into distinct species for no other reason than that they occur in formations widely separated from those holding their nearest kin."

stood that recent discoveries have invalidated a number of former evolutionistic arguments. The average college text-book conveys the impression, that many new species have been and are now produced. Such is not the latest dictum of science. The great English scientist, Professor W. Bateson (whose celebrated Toronto address, Dec. 1921, before the American Association for the Advancement of Science, caused a panic among evolutionists of all shades) said on a previous occasion: "We read his [Darwin's] scheme of evolution as we would those of Lucretius or of Lamarck... The doctrine of the survival of the fittest... is mere eighteenth century optimism... It was a commonplace of evolutionary theory that at least the domestic animals have been developed from a few wild types.... The various races of birds, for instance, it was said all came from the Indian jungle fowl... But try to reconstruct the steps in their evolution and you realize your hopeless ignorance... New Species may now be in course of creation, but the limits of the process are obviously narrow. On the other hand we see no changes in progress around us in the contemporary world which we can imagine likely to culminate in the evolution of forms distinct in the larger sense" *(Heredity. New Theories and Facts Relating to the History of Organic Beings).*

Darwin "as obsolete as Lamarck," "doctrine of survival of the fittest merely eighteenth century optimism;" "hopeless ignorance" as to evolution; no new forms "distinct in the larger sense," such are some of the scathing denunciations employed by Bateson to characterize "the blind complacency of evolutionists." Bateson continues: "By intercrossing dogs, jackals and wolves, new forms of these types can be made, some of which may be species, but I see no reason to think that from such material a fox could be bred in an indefinite time or that dogs could be bred from foxes.... The outcome, as you will see, is neg-

ative, destroying much that till lately passed for gospel... We are just about where Boyle was in the seventeenth century. We can dispose of alchemy, but we cannot make more than a quasichemistry. We are awaiting our Priestly and Mendeleeff."

What! Only "new types" and not "new species?" Not able to breed "a fox from a dog, or a dog from a fox!" No real progress since Boyle!! Why, this knocks the under-pinning out of the whole evolutionistic structure. And this from Bateson, the greatest authority on heredity and inheritance in England, if not in the world. To *perdition* with Bateson, cry the college professors of science, the whole crew of newspaper scribes and the "kids" just out of college. Recently Bateson writes: "Variations of many kinds, often considerable, we daily witness, but no origin of species" (*Science,* Jan. 20, 1922).

Opposing the whole Spencerian scheme of translation from the simple to the complex, which we saw above is one of the corner-stones of the current false evolutionism, Bateson argues that the earliest and simplest forms of life may have continued in some mysterious way all the peculiarities of the later complex forms.

(D) ACQUIRED CHARACTERS NOT TRANSMITTED.

The view of the non-transmission of acquired characters is gradually coming to be held by an increasing number of scientists. Thus Prof. E. G. Conklin writes: "Modern studies in genetics are emphasizing the immense, the overwhelming importance of heredity in both phylogeny and ontogeny... Inherited variations do appear, incipient species arise, but there is very little evidence to show that they appear in response to environmental changes only... The old view that men are chiefly the product of environment and training is completely reversed by recent studies of heredity. The modifications

which may be produced by environment and education are small and temporary as compared with those which are determined by heredity" (*op. cit.*, pp. 312, 313).

Conklin continues: "Weismann introduced a new era in biology by denying the inheritance of all kinds of acquired characters, and by challenging the world to produce evidence that would stand a rigorous analysis. He forever disposed of *theories of pangenesis* and the like by showing that the germ cells are not built up by contributions from the body and that characters are not transmitted from generation to generation; but on the other hand that there is transmitted a germ plasm which is relatively independent of the body and which is relatively stable in organization. Did the giraffe get his long neck because he browsed on trees (Darwin) or does he browse on trees because he has by inheritance a long neck? Did flying lead to the development of wings (Darwin) or do birds fly because heredity has given them long wings?... The evidence is in favor of the second of these alternatives rather than of the first."

Conklin lays down three laws regarding acquired characters: 1. Developed characters whether acquired or not are *never transmitted* by heredity; 2. Probably environmental stimuli acting upon germ cells may rarely cause changes in the hereditary constitution; 3. By artificial processes germ cells may undergo modification for one generation without becoming hereditary.[33]

Conklin holds with scientists generally that the human species has remained "relatively stable during the historic epoch." Neither environment nor education has changed the hereditary capacities of men. "Galton has

[33] "If acquired characters are not transmitted, there is no evolution" said Charles Darwin. That ought to settle the whole matter so far as the current meaning of evolution as a transition from the homogeneous to the heterogeneous, which is the only meaning in dispute, goes. Of evolution as growth, development, unfolding of latent qualities there is abundant proof, but none of **pseudo-evolutionism.**

pointed out that in the little country of Attica in the century between 530 and 430 B. C. there were produced 14 illustrious men, one for every 4300 of the free-born, adult population. In two centuries it produced 25 illustrious men." Galton concludes that the average ability of the Athenian race of that period was on the lowest possible estimate, as much greater than that of the English race of the present day as the latter is above that of the African negro—not very flattering for the "English race," or their American cousins. *Where is the evolution?*

(E) MENDEL'S LAW—A GREAT SCIENTIFIC DISCOVERY.

According to the latest science as interpreted by Bateson, Conklin, D. H. Scott and a group of conservative evolutionists, the law of heredity is absolute and applicable to apes and men no less than to the lower orders. The generally accepted doctrine of Mendelism has knocked the bottom out of Darwinian and Haeckelian evolutionism. In 1865, Gregor Mendel, an Austrian Monk, who had experimented many years on varieties of peas, published the results of his experiments. But his book lay hidden until discovered in 1900. He found that when he crossed a tall with a dwarf pea, all the first hybrid generation were talls, with no dwarfs or intermediates. He called the tall character *dominant* and the dwarf character *recessive.* "On allowing these hybrids to cross-fertilize one another in the usual way, Mendel found that in the second generation of hybrids there were *always three talls to one dwarf* out of every four. Further experiments proved that these dwarfs of the second hybrid generation *always bred true,* that is, one out of four; and that one out of the remaining talls always bred true, making another quarter of the total; while the remaining fifty percent proved to be mixed talls, always acting as did the original hybrids, splitting up in the next generation in the same arithmetical proportion as before."

Thus, if the experiments be confined to the two characters, tallness and dwarfness, it is found that there are only *three kinds of peas,* talls which breed true, dwarfs which breed true and talls which yield the same definite proportion of talls and dwarfs. Mendel experimenting with peas of all sizes, shapes, colors, found that the same law held. Innumerable experiments made in recent years have shown that the same wonderful mathematical proportion exists throughout the whole plant and animal world. If the reader cares to look into the matter more fully let him consult *"A Critique of the Theory of Evolution"* by Prof. T. H. Morgan of Columbia, or even *"Heredity and Environment"* by that arch evolutionist, Prof. E. G. Conklin, of Princeton.

Mendel's Law is sometimes called the law of Alternative Inheritance, according to which the offspring may show characters possessed by one parent or by the other, but cannot develop any characters which were *not latent in the ancestry.* As the reader ought to understand this great and revolutionary discovery, we reproduce Bateson's definition: "The essence of the Mendelian principle is very easily expressed. It is, first, that in great measure the properties of organisms are due to the presence of distinct, detachable elements, separately transmitted in heredity; and, secondly, that *the parent cannot pass on to offspring an element, and consequently the corresponding property, which it does not itself possess."*

This law is now regarded as universally valid in the plant and animal world. In other words, an ape cannot transmit an element, such as self-consciousness or personality, which it does not possess.

Men have been engaged for thousands of years in the breeding of cattle, but no fundamental modifications have ever been produced, or any new species originated. Even by crossing different species, nothing permanent

has ever been effected. "The curse of sterility rests on all creatures produced beyond the bounds set by nature." Even the five-toed horse, of which we heard so much a decade or two ago, is not distinct from the one-toed horse of to-day. All the breeds and varieties of horse, whether it had five or twenty toes, are descended from the species *horse* and not from an ox, dog, or any other species.

(F) PERSISTENCY OF SPECIES.

As a result of experimentation it is now an established law that no really new species arise. The old theory that gradual change through thousands of years originated and perpetuated new species must now be abandoned. Many variations due to climate and environment take place, but they are merely varieties of one and the same species. The law that living things left to themselves degenerate is universal, illustrated a thousand times in the case of wheat, apples, cattle and horses.[34]

Bateson, in the Melbourne address, made the far-reaching statement that numerous experiments had established the fact that evolution in the proper sense takes place, not by *gain*, but by *loss* of factors and Prof. S. C. Holmes of the University of California is quoted by G. McC. Price as declaring that Bateson's conclusions afford "an illustration of the *bankruptcy of present evolutionary theory.*" The persistence of species in the broad sense of kind or type is a confirmation of the Biblical record, Genesis I, that God created plants and animals after their kind, species or genus, or whatever sense the Hebrew may convey. As creation is an inscrutable process we probably never shall know what its scope may be, but

[34] Prof. L. B. Wilson, writing in Science, says: "One need not be a pessimist to assert the actual evidence thus far obtained indicates that the supposed progress made in the improvement of domesticated animals and plants is nothing more than the sorting out of pure lines, and thus represents no advancement."

both Scripture and science indicate that all creatures in earth, air or water reproduce "after their kind."

(G) THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE AND EVOLUTION.

The American Association for the Advancement of Science has repeatedly affirmed that evolution is no longer merely a theory, but an established fact. Dr. J. P. McMurrich, Toronto, Canada, in the Presidential Address at the meeting in Cincinnati, December 1923, gave a resume of the trend of evolutionary thought since Darwin's day, but did not define what evolution is, except that Laplace's Hypothesis of the origin and history of the heavenly bodies is an illustration of evolution. As Laplace assumed an eternal force or energy as the ground of everything in the universe and left out God, we must suppose that McMurrich and scientists generally, if pushed to the wall, would admit that under their hypothesis force and not God created the universe. All is continuity and a natural process; nothing is supernatural.

We search in vain in the proceedings of the American Association for a clear-cut definition of evolution. Evolution in one sense may be true, in another, untrue and at most an assumption. At the December 1922 sessions in Cambridge, Mass., a resolution affirming the soundness of the theory of evolution was adopted. The report of the committee, consisting of Professors, E. G. Conklin, H. F. Osborn and C. B. Davenport, is too lengthy to be reproduced in full, but we give the main points. We are told that (1) "so far as the scientific evidences of the evolution of plants and animals and man are concerned there is no ground whatever for the assertion that these evidences constitute a mere guess;" (2) "No scientific generalization is more strongly supported by thoroughly tested evidences than is that of organic evolution;" (3) "the evidences in favor of the evolution of man

are sufficient to convince every scientist of note in the world."

It will be observed that no attempt is made to state whether evolution is an unfolding of a latent and undeveloped force, as the oak from the acorn, which no one denies, or a transformation of the homogeneous into the heterogeneous, as star-dust into a plant, or an entity, an essence, a something working toward an end. Obviously evolution is nothing, can do nothing, is merely a metaphor, a figure of speech, a formulation of what is conceived to take place. Cope's affirmation that 'evolution is creation' is not only a confusion of words, but at bottom absolutely meaningless.

Coming now to the three above propositions, we note that (1) must mean that plants, animals and man are fundamentally one, the animal is the plant undeveloped; man, the animal undeveloped, there being no difference of "kind" or species. No. (2), "Organic evolution" is practically a subhead of (1) and so, too, (3). Here the working principle of science is implied; continuity from first to last, from nebula to man without divine intervention; passage of the homogeneous into the heterogeneous, invariability and universality of natural law to the exclusion of the supernatural at every stage, God not even creating force, matter, life, soul.

It would be interesting to know how Professor Conklin reconciles his blanket definition of evolution with some statements in his *"Heredity and Environment."* On page 201, speaking of heredity he writes: "The chief characters of every living thing are unalterably fixed by heredity. Men do not gather grapes of thorns nor figs of thistles. Every living thing produces offspring after its kind. Men, horses, cattle....all of the billion known species of animals and plants differ from one another because of inherited peculiarities, because they have come

from *different kinds* of germ cells." If things are "unalterably fixed by heredity;" if every living thing is "after its kind," how can the animal on the mental and spiritual side develop into a man? Does not any such claim violate the law of heredity as formulated by Mendel, Weismann and Conklin himself?

Then, again, how does Conklin harmonize the above resolution with his acceptance of Mendelism? On page 256 he writes: "In the main Mendel's conclusions have been confirmed again and again, so that there is no doubt that they constitute an important rule of inheritance among all organisms." As seen above, pages 125-6, Mendelism has knocked the bottom out of "organic evolution" as usually presented.

We have given above, pages 123-4, abundant quotations, showing that the chairman of the Association Committee accepts Weismann's proofs of the non-transmission of acquired characters. Referring again, to Darwin's dictum that if there is no transmission of acquired characters there is no evolution, we should like to know how under Weismann's law the amoeba can become a man.

(H) THE DOGMATISM OF SCIENCE ILLUSTRATED.

A professor of Geology in Princeton University writes: "We must beware of erecting evolution into a sacred dogma which no one shall dare to criticise or doubt" (W. B. Scott, *The Theory of Evolution*, p. 171). That, however, is the attitude of scientists to-day; they hold that the current evolutionism is so unquestionably true that it is the key that unlocks all the mysteries of matter, energy, life, mind, soul, of society, psychology, ethics and religion; in short, that it is a principle of universal application to the exclusion of the Biblical view that God created the physical universe, plant and animal life, and man as the climax of the creative works. In

short, they start with a half dozen assumptions, such as the eternity of energy and matter, absolute continuity from lowest to highest, invariability of natural law (without a lawgiver), indestructibility of matter and force, and a magic transformation of the homogeneous into the heterogeneous and on the basis of such unproved assumptions have built up during the last half century and buttressed at every point the most arbitrary, artificial, revolutionary and dogmatic system ever devised by the cunning of man.

A capital illustration is afforded by Professor Vernon Kellogg in *The World's Work*, May, 1924. He begins with admissions which vitiate his effort to explain evolution. "Evolution is defined in a score of ways, but *not clearly* in any way [very true; and yet we are asked to accept something without knowing what it is, whether the genuine article or a 'gold brick']. Each one defines it for himself, and no two define it alike. [Whose definition are we to accept, yours, or somebody else's? And yet you come forward with this nondescript mongrel thing and ask us to make it the basis of our philosophy of life, education and religion]....We need a general treaty of understanding." We do indeed, but where is our Aristotle, Newton, Hegel? We are about where Boyle was in the seventeenth century, says Bateson.

And yet "evolution means continuity, means transmutation." [But how can a conversion of one thing into another be at the same time a continuity?], the origin of the new from the old....Every living creature, a whale, tiger, animalcule, man is like every other creature [and yet not the same as any other creature. Likeness is not identity]. "Granted life, granted matter, granted energy....granted an ultimate cause or causes" and evolution follows. But science is in a dilemma as to life. If life be a creation (a concession allowed originally by Darwin, but subsequently quietly withdrawn) it is an excep-

tion to the fundamental evolutionistic thesis of continuity; in that case evolution ceases to be a universal principle; to affirm that life is a product of lifeless matter contravenes the universally accepted principle, "all life from life." Then, again, science leaves us in doubt whether matter exists at all or is merely energy.

Moreover the granting of "an ultimate cause or causes" comes to nothing, unless it be granted that the cause is not merely immanent but also transcendent in some sense prior to the cosmic processes; which evolutionism denies. We are next told that evolution "is an explanation of process, not primitive cause." But evolutionism identifies cause and process. Ex-President Eliot of Harvard affirms "that there can be no secondary cause in either the natural or the spiritual universe" *(Religion of the Future)*. All sound philosophy recognizes God as the primal Cause with secondary causes under His control. Evolutionism, denying the integrity of each, blends God, nature and man in a *rudis indigestaque moles*.

We are told that "Evolution concerns man as a link in the chain of animate matter. It does not concern him as a repository of spirit, soul, and religious yearning and faith." If man, the whole man and not merely his body, be a "link," is not the soul included? Though we speak of man's body, soul, spirit, he is at bottom a unit and cannot be cut up in the manner indicated. "Animate matter" is matter with an *anima*, a life-principle, expressed with fine discrimination by the Hebrew *nephesh* in Genesis, according to which the animal and man have alike a life-principle, but man alone the *animus*, mind, intelligence, personality. It were more correct to say that evolution "concerns" and affects man most profoundly on the side of soul and religious yearning. It is because evolutionists, as Kellogg allows, cannot define evolution "clearly" and are on the open sea of doubt and discord on fundamentals, and yet with the most blatant and conceit-

ed dogmatism in all history, claim everything "in sight," that they have unsettled more things than they have settled, brought confusion into all the sciences (especially psychology and theology) and led the public into the blindest of "blind alleys." The blind leading the blind!

The effort to make it appear that evolutionists seek only facts without any philosophical or religious import, is, as every one knows, an impossibility, for evolutionism is at bottom a philosophy of the universe, of life, man and religion.

The statement, "How these [spirit, soul, etc.,] came to be in him, the evolutionist does not know," is the weakest of all the weak statements in this unfortunate article. Our understanding is that evolutionists with few exceptions hold that man (body, soul, spirit) is descended from an amoeba, through a hypothetical ape-man, that his soul, if indeed he has any (which pragmatists and behaviorists at least deny) is a product of matter-force. Possibly, however, the professor means (and in that case he is consistent) that under the evolutionistic theory of an eternal but impersonal energy and of the law of continuity, mere force or energy has never been known to produce life or soul, and that in short, as Hugh Elliott phrases it, we all are laboring under a terrible *delusion* in supposing that we have or are soul rather than mere force.

Finally the claim that "the relation of evolution to religion is very slight" is offset by the whole trend of evolutionistic thought during the last decade. Evolutionists with characteristic boldness are reaching out beyond the What into the Whence, Wherefore and Whither and proposing a religion of science, which according to Professor Conklin, is to "develop a better and nobler human race" than the religion of Christ with its doctrine of sin, and atonement can produce.

Professor Kellogg is probably correct in saying that the "evolutionist is usually a God-fearing man of honest

convictions;" but he is such in spite of the half dozen premises of his evolutionism.[35]

[35] It is a fact, not disputed, that the doctrine of evolution has undermined the Christian faith of students in college. In addition to the Leuba investigation recorded in Chapter VI we reproduce the following. In a denominational college according to the **Christian Century** (April 19, 1924), of 90 per cent of graduates of a certain recent year about 42 per cent did not believe in the existence of a personal God. Of 43 men who entered college with the intention of studying for the ministry, only 16 went to theological schools. The same is true of women students. Mary Briarly (pseudonym) author of "**In His Own Image,**" living in Salt Lake City and wife of a prominent judge, took up the education problem in the interest of her three children, the youngest a sophomore in college. She found that the woman in college, is learning the same things as her brother, "scientific theories destructive of the faith she imbibed at home. . . . She is becoming agnostic and atheistic . . . chiefly because the whole trend of college training is toward unbelief. . . . The modern university knows but one god, the scientific spirit and teaches that evolution is a fact and God a Possibility." **(Scribner's Monthly, 1922).**

CHAPTER V

THE ORIGIN, ANTIQUITY AND NATURE OF MAN.

First Part.

DO SKULLS AND SKELETONS INDICATE MAN'S DESCENT FROM THE APE?

Scientists are logical and consistent in holding that man has descended from the lower orders, for, since in their view, there is an unbroken continuity, without any intervention from without man must have descended from some animal. The editor of a prominent New York daily said in June, 1921: "None but a fool would dare criticise the theory of man's descent from an ape because it is the commonly accepted opinion of mankind."

It is proposed here to examine the concrete evidence for the evolutionary hypothesis of man's descent from the ape or ape-man. Is there any direct proof of such descent? Are there fossils and skeletal remains looking in this direction? Or is the evidence indirect, conjectural and inferential? An effort will be made to examine the facts and data with the utmost impartiality.

A. Skeletal Remains in General.

After Darwin had claimed that all forms of life were derived from three or at most four prototypes it was an easy transition to the view that man is included in this sweeping generalization. Accordingly evolutionists affirm that man, body and soul, is the resultant of an evolutionary process. But there were no direct facts in support of the hypothesis. It was an hypothesis, pure and simple, a bold inference required to render the doctrine of evolution complete and symmetrical.

If, now, the skull, legs, arms, teeth or any bones

whatever of some animal, as an ape, chimpanzee or gorilla would turn up in some part of the earth and be made to appear as having some resemblance to those of a human being, the necessary "link" in the succession from animal to man would be supplied and, *presto,* the thing would be done, as by magic.

Until within comparatively recent times no claim was seriously made that the "missing link" was found, or indeed that there was any such thing. The whole matter was regarded as a huge "joke" mentioned now and then humorously by a newspaper writer or lecturer and accepted by few. But the situation has changed. During the last thirty years, fossil remains of one kind or another have been discovered which a number of scientists regard as unquestionably those of beings pre-human and forming a connecting link between the higher orders of animals and man. It is only within a few years that any attempt has been made to group or classify such remains, determine their chronological sequence and build up an impregnable argument for antitheistic evolutionism.

Next to the British Museum and the great museums of France and Germany, the American Museum of Natural History, New York City, contains the largest and most valuable collection of skeletal remains; here, too, we find the most ambitious attempt at the "restoration" of such remains. The reader who has visited the museums of any large city is familiar with the "restored" mastodons, ichthyosauri and pterodactyls, safely mounted on iron supports and the parts held together by various devices, every bone so accurately joined to its neighbor and all so modern, that the visitor is naturally led to suppose that the skeletons on exhibit are really those of creatures living (as possibly the attached card says) from 500,000 to 10,000,000 years ago. But in reality only about one one-hundredths part is original, that is, has in fact been found somewhere, and the remaining ninety-nine one

hundredths is pure "restoration" according to the idea of what such and such a being looked like a million years ago.

It is not much of a trick for the up-to-the-minute scientist, endowed with a vivid imagination, to take a toe, tooth, tusk, or part of the body of some animal and "reconstruct" a perfect fac-simile of an animal of any period desired, whether fifty thousand or fifty million years ago; and not only so, but to describe the length, breadth and heighth of the creature, size of its head, length of neck and tail (if it had any), and color and character of the skin, and in short all that one wants to know, very much as if the creatures were actually in the flesh to-day.[1]

B. Pre-Human or Human Skeletal Remains.

As stated above, scientists have in recent years left no stone uncovered in the search for fossil teeth, toes, and bones of any kind which could by clever "restorations" be regarded by sophisticated neophytes and an unsophisticated public as veritable examples of the "missing link." Though the skeletal remains lending themselves to such use are few in number and for the most part colorless in type, they have now been classified and presented in such an imposing array that the unprofessional student is led to think that the proof is unquestionable and absolute.

The stock in trade of scientists consists in a shrewd marshaling of the so-called Neanderthal Man, the Piltdown Man, the Heidelberg Man, the Java Man, and a half dozen others of minor importance.

It will serve our purpose best to regard the "restor-

[1] Great and defying description must be the sport of men and boys engaged with their plaster Paris and tools in "restoring" and "fashioning" some tooth or toe-nail of an ape or gorilla, into a respectable looking pre-human or human being, debating meanwhile the length of the arms and fingers, the contour of the face, the size of the nose, and the shape of the head, whether a "high-brow" or a "low-brow." Verily the exploits of the scientist are original and truly marvelous.

ations" in the Hall of the Age of Man in the American Museum of New York, as representative of all other reconstructive efforts. As a sequel to the Hall of the Age of Mammals is the Hall of the Age of Man, arranged under the direction of Prof. H. F. Osborn, of Columbia University, assisted by other scholars. In the middle of this Hall, flanked on both sides by "restorations" of all kinds of animals, is a series of five glass-covered cases containing the "restorations" in successive groups. Thus in Case I are eleven "restorations;" and as we aim at accuracy we shall quote liberally from an article by Prof. Osborn in Vol. XX of *Natural History* (the Journal of the American Museum) as also from his "*Men of the Old Stone Age,* and from his article "*Where Did Man Originate?*", in *Asia,* June, 1924.

In the former publication we read: "On the right half of Case I are arranged the skulls of certain anthropoid apes—(1) gibbon, (2) orang, (3) chimpanzee, (4) adult gorilla, (5) young gorilla, while on the left are models of skulls of the known races of man (7) Piltdown, (8) Neanderthal, (9) Talgai, (10) Cro-Magnon, (11) recent. Between these two groups have been placed a 'restoration' of the skull and of the head of the Trinil or apeman of Java *(Pithecanthropus erectus)* and a cast of the actually discovered brain case and two of the teeth" (p. 231). The reader will note that the word *pithecanthropus* is Greek for *Ape-Man.*

Osborn proceeds: "On the human side of the case, immediately below the Neanderthal skull, is shown a cast of the massive Heidelberg jaw, representing a race which was perhaps the predecessor of Neanderthal man in Europe. Below this and on another branch are casts of teeth and fragments of jaw of a primitive fossil ape of India (*Sivapithecus indicus*), the patterns of whose molar teeth somewhat resemble those of man, but still more of the orang."

The chief objects in Case II are described thus: "The most ancient fossil relic of man is the massive jaw which was found near Heidelberg in deposits of the second Interglacial stage, perhaps as early as 200,000 B. C. A skull has been modeled to fit this jaw by Prof. McGregor. Of this skull the upper dental arch, the region of the cheeks and the jaw articulation can be restored with a high degree of probability....The size of the brain is more doubtful, but it was probably at least of the type of the Neanderthal skull." But what proof of all this? Is it not mostly mere conjecture and a violation of the laws of true induction as shown in the Excursus?

Case III contains "restorations" of the alleged "immediate predecessor of modern man, the Neanderthal race, of the middle Old Stone Age in Europe from about 50,000, to 25,000 B. C." Of this race we are told: "A race of long headed men was established over Western Europe before the last Glacial period. Many of their stations have been discovered and a considerable abundance of fossil material, including practically complete skeletons [as a matter of fact no such complete skeletons or indeed any distant approach to such are to be found in this museum or any other in the world; the claim is a pure fiction]. These represent what is probably a distinct species of man *(Homo neanderthalensis)*, presenting some features never before found elsewhere combined in any human race and some quite outside the limits of variation of recent man." (Osborn, *op. cit.* p. 232).

All the evidence for the descent of man from some lower orders or from the ape is contained in these three ordinarily sized cases. The actual original 'finds,' upon which this whole elaborate hypothesis is based, would not fill a bushel basket.

C. Detailed Examination of the Skeletal Remains.

Let us now examine in detail the actual 'finds' upon

which this revolutionary scheme of man's origin is based. In order to present the view-point of the scientists in a clear light, we state as nearly as possible in Prof. Osborn's phraseology his plan of grouping the objects in the above-mentioned Cases. It will be noticed that on the right side of Case I the assumed pre-human anthropoid apes are arranged in the supposed order of descent from gibbon to gorilla, and on the left, the alleged known primitive races of man, beginning with the Piltdown and ending with recent man. It ought to be added that this ascending scale is made to conform to the geological times known as Eocene, Oligocene, Miocene, Pliocene and Pleistocene.

Osborn candidly but fatally (for his hypothesis) admits that "man is not descended from any known ape, either living or fossil, but a hypothetical ancestor of this entire anthropoid group, founded on a jaw discovered in Egypt, is the *Propliopithecus Haeckeli.*" In other words, "a jaw discovered in Egypt" is "the hypothetical ancestor" of hypothetical anthropoids, the hypothetical ancestors of the alleged Piltdown and Neanderthal man, the hypothetical ancestors of the present human race. That is, the whole matter moves in the realm of the conjectural and is determined largely by a pre-conceived scheme of ascent. To save the evolutionary hypothesis, man must be regarded as descended from the lower orders; hence the temptation to find skulls supporting the hypothesis.

(A) BEGINNING OF MAN ACCORDING TO NATURAL SCIENCE.

According to Professor Osborn the Age of Man began 500,000 years ago in some region of Asia, not yet explored by Paleontologists. (The latest scientific view is that he arose in Africa. New York Times, February 5, 1925). He allows that "fossil remains of man are extremely rare....Only two races, the Heidelberg and the

Piltdown, are certainly known from the river drifts and gravels before the period of burials." The remains in the above-mentioned Cases are classified on the basis of the idea that the ascent of man was parallel with that of the apes. "Man," says Osborn, "has a long line of ancestry of his own, perhaps two millions or more years in length. He is *not* descended from *any known form of ape* either living or fossil;" this admission ought to go a great way in settling the matter, but despite this admission, Osborn persists in asserting that man is a descendant of the ape or ape-man.

Speaking of orangs, gibbons, chimpanzees and gorillas, Osborn writes: "All these great man-apes are distinguished from man by being more or less arboreal in habit; they are shown to be very far removed from the large-brained walking line which gave rise to our ancestors. *Our own immediate ancestors did not live in trees; they were erect or semi-erect for a very long period,* perhaps as far back as Miocene time. Back of this, perhaps a million years ago, was a prehuman, arboreal stage" *(op. cit.,* p. 230). In other words the ape is and always was arboreal; man is not now and never was arboreal. How then could man ever have descended from the ape? Osborn's only escape from the dilemma created by himself is the assumption that "perhaps" a million years ago man was "arboreal."

(B) THE PILTDOWN MAN.

Examining these alleged fossil men in succession, we begin with the Piltdown Man. Prof. Osborn writes: "Of very great antiquity, perhaps 500,000 B. C. are the fragments of a skull discovered at Piltdown, England, in conjunction with a number of flint and fossil....and a jaw which is still a matter of controversy. The skull and head of this Piltdown Man have been restored by Prof. McGregor....A feature of the Piltdown skull which dis-

tinguishes it from those of the Neanderthal type is the absence of eyebrow ridges. Although this is the most primitive and ape-like human skull that has been found, it is nevertheless well advanced along the line of characteristically human evolution and shows a brain capacity estimated as at least between 1200 and 1300 cubic centimeters, equaling or exceeding that of the aboriginal Australians" (p. 233).

Let us look at the facts concerning the Piltdown Man. About Dec. 18, 1912, a Mr. Charles Dawson, walking along a farm road near Piltdown, England, "noticed that the road had been mended with some peculiar brown flint not usual in the district." He found that they had been dug up from a gravel-bed on the farm. The date of the "discovery" is not fixed, but was some time in 1909 or 1910. Laborers digging for gravel brought to the surface at various times "a small portion of unusually thick human parietal bone" and some years later "another and larger piece of bone belonging to the frontal region of a skull." Some time later after diligent search by laborers "a jaw bone, a small piece of occipital bone and a canine tooth were discovered."

On the strength of these objects, which a juggler could conceal in his hand and coat sleeve, the whole hypothesis of the famous Piltdown Man of 500,000 years B. C. is built up.

Facts about the so-called Mr. Piltdown.

Naturally the determination of the period of Mr. Piltdown is of prime importance. But here all kinds of difficulties stare one in the face. The early "reconstructionists" wanted a near-ape skull and a near-ape jaw. "So they put their solitary canine tooth on the right side of the lower jaw at an angle suggestive of the ape." But unfortunately Prof. W. K. Gregory and Prof. G. S. Miller pointed out that the tooth regarded as the right lower ca-

nine was not a lower tooth at all "but a left tooth and an upper one at that." Even though the "specialists" were unable to fix the position of the only tooth in their possession, they were certain that Mr. Piltdown flourished in the Pliocene drift; but Prof. W. B. Dawkins showed that the time could not be earlier than the Pleistocene. This would necessitate the knocking off of several hundred thousand years from the age of the famous hypothetical human ancestor.

To make matters worse, scientists began to claim that "the teeth do not belong at all to the same skull, and that the jaw itself could not in any way be associated with the skull." Professor Ales Hrdlicka, of the Smithsonian Institution, Washington, one of the highest authorities in this country and author of *"The Most Ancient Skeletal Remains of Man,"* writes: "The most important development in the study of the Piltdown remains is the recent well-documented objection by Prof. G. S. Miller of the United States National Museum to the classing together of the lower jaw and canine with the cranium. According to Miller, who had ample anthropoid, as well as human material for comparison, *the jaw and tooth belong to a fossil chimpanzee."* In short, both Hrdlicka and Miller hold that the evolutionary hypothesis regarding the Piltdown man should be rejected as premature.

The great German anatomist, G. Schwalbe, frequently quoted by Osborn, declares that "the proper restoration of the Piltdown fragments would make them belong not to any preceding stage of man, but to a well-developed, good sized *Homo sapiens,* the true man of to-day." Sir Ray Lankester also holds that the jaw and the skull could not have belonged to the same creature. Prof. D. Waterson, of Kings College, London, rejects the extraordinary claims for the Dawn Man on the ground that "the mandible was obviously that of a chimpanzee, while the fragments of the skull were human in all their characters."

Prof. G. C. MacCurdy of Yale University, writes: "The cranium of the Piltdown Man is human, as was recognized by all in the beginning. On the other hand, the mandible and the canine tooth are those of a fossil chimpanzee. This means, that in place of *Eoanthropus Dawsoni* (the Piltdown missing link) we have two individuals belonging to different genera" *(Science,* Feb. 18, 1916).

Prof. Lull, of Yale, writes: "These remains occurred so near the present land surface that had they not shown evidence of great structural antiquity, their authenticity would be greatly in doubt." Again, he writes, the "skull was nicely balanced on the neck, as in ourselves, implying an erect posture, a rather modern-looking cranium." *(Evolution of Man).* In other words the evidence is overwhelming that man was man from the first, and not an ape-man.

(c) THE NEANDERTHAL MAN.

One of the strongest arguments of scientists that man has descended from the ape is supposed to be found in the so-called Neanderthal Man, a reconstruction on the basis of some bones found in Aug. 1856 in the Neanderthal gorge, Westphalia, Germany. Laborers, digging in a small cave, carelessly threw out and scattered various bones lying in their way. Some months afterward, a Dr. Fuhlrott, an antiquarian who had heard of the incident, investigated and found other fragments of bone in the same cave, as a thigh bone, well preserved, some arm bones, fragments of forearm, pelvis, shoulder-blades and rib. Scientists are not agreed whether these parts belong to one and the same being or to several.

If it can be shown that this Homo Neanderthalensis was really a human being, all claims that he was a "missing link" fail; if, however, it can be proved that the bones are not those of a man, but of a lower creature, it would constitute a strong proof for the evolutionary hypothesis.

The creature has been described as an early Dutchman, a Mongolian Cossack, an idiot, a relative of the Australian Blacks, a primitive ape-man, a paleolithic man, and so on. It is true that some sensational writers for the press, and yellow journalists in general, send out a huge mass of camouflaged and syndicated evolutionistic stuff, but many sober-minded men who have spent years on this and related subjects shake their heads at the conceits of neophytes and ultra-radical scientists.

The Skull of Mr. Neanderthal.

Though the other bones play a more or less important part, it is the skull which causes the chief difficulty. It is not exactly like the skull of the average man. Dr. Hrdlicka writes: "The forehead is very low and also slopes markedly backward, nevertheless it presents a moderately defined convexity. The sagittal region is oval from side to side, much like that of man to-day." Some scientists regard this as a proof of a pre-human being. But Sir Henry Irving, the actor, and the Marquis LaFayette, of Revolutionary fame, also had low and retreating foreheads. A low forehead is not necessarily a proof of an ape-man.

A question has arisen whether the Neanderthal Man was really a "fossil," that is, "not merely mineralized," but also "belonging to a form of humanity no longer existing" (Hrdlicka). Some scientists argued that the bones belonged to the Diluvian period. But Dr. Schaafhausen, who examined the bones on the spot, found no proof of a fossil condition. The argument from the capacity of the skull cuts both ways. Thus, that of the highest apes is 600 cubic centimeters; that of the Neanderthal Man, is given by Schaafhausen as 1033, Huxley 1230, Schwalbe 1234, Osborn 1408. It is found that the skull capacity of the Widdas, a race of dwarfs in Ceylon is 960 cubic centimeters, that of the men of Central Eu-

rope 1503, of the women 1300, and that of the average man of to-day the world over 1240. According to Prof. Osborn's figures, the human female of Central Europe has less brain capacity than the "restored" half-ape, half-human creature which lived "before the last Glacial period" or 50,000 to 100,000 years before Christ. Where is the evolution?[2]

Exposure of Haeckel's Common Ancestry Hypothesis.

It was Ernst Haeckel, the atheist, whose many forgeries have been repeatedly exposed, who started the fiction of a hypothetical common ancestor of men and apes, and now accepted by Osborn and other American scientists. But a high European authority, Dr. Erich Wasmann, writes: "We have the pedigree of the present apes, a pedigree very rich in species and coming down from the hypothetical ancestral form of the oldest Tertiary period to the present day. Zittel's *Grundzuege der Paleontologie* gives a list of no fewer than 30 genera of fossil Pro-Simiae and 18 genera of fossil apes, the remains of which are buried in the various strata from the Lower Eocene to the close of the Alluvial epoch, but no one connecting link has been found between their hypothetical ancestral forms and man at the present time. The whole hypothetical pedigree of man is not supported by a single fossil genus or a single fossil species."

If the men and monkeys of to-day really descended from a common ancestor, why are there absolutely no fossil remains of such a being? Among the thousands of fossil apes thus far exhumed there is not a single specimen of such an assumed ancestor. Some scientists and such superficial writers as H. G. Wells in his "*The Out-*

[2] Some years ago it was claimed that Daniel Webster's skull and that of Bismarck, both approximately 1965 cubic centimeters, were the largest on record. But Prof. Virchow discovered a skull with a brain capacity of 2010. It, however, did not belong to an American or German statesman, but to a savage of New Britain.

lines of History," have left no stone unturned to bridge the chasm between man and the ape, but in vain. Condemning Wells' belated and unscientific concoctions, Prof. Ray Lankester wrote: "I think we are stumped and baffled! The most prudent way is to keep the jaw and the cranium apart in all argument about them."

Some time ago Prof. Macnamara in a paper pointing out that skulls resembling the Neanderthal occur at present in Australia and Tasmania, says: "The average cranial capacity of these selected thirty-six skulls of Australian and Tasmanian Blacks is even less than that of the Neanderthal group" *(Archiv fuer Anthropologie,* XXVIII), according to which the Neanderthal skull cannot possibly be regarded as a distinct race of man. In fact the Neanderthal Man and the Australian resemble each other more closely than either of them resembles the modern Lapp skull; and no scientist to-day would deny that the Lapps and Australians belong to the species known as *Homo sapiens,* or true man.[3]

The alleged Neanderthals.

Not only was there a Neanderthal man, but a Neanderthal race, according to Osborn. Pieces of bone and a few fragments of skulls, collected in Spain, France, Germany and Hungary, are cleverly arranged so as to convey the impression that there flourished a Neanderthal race. "Foremost in perfection," says Osborn, "is the skull from La Chapelle-aux-Saints," discovered in Southern France in 1908. The bones were sent to Prof.

[3] In examining the photographs of the Neanderthal Man as given by Prof. Osborn in Vol. XX, p. 234 of **Natural History** and the cast itself number 6 in Case III of the New York Museum, one is impressed with its striking similarity to a "Sioux Warrior," found on Plate 24 of W. Hough's article on "Racial Groups and Figures" in the Report of the Smithsonian Institution for 1920. So far as one may judge from the two heads and faces there would seem to have been no essential difference between the Neanderthal of 50,000 years ago and a rugged Indian chief of today. The same cut of Neanderthalensis is reproduced on page 431, of **Asia** June, 1924. Again, we ask, Where is the Evolution?

Boule, of Paris, who cleaned and "restored" them. Boule found a skull-capacity of 1620 cubic centimeters, rather above the average of a modern professor of science. According to Boule, "the brain is on the whole already human by the abundance of the cerebral substance." But what could Prof. Boule, or any one else know of the "brain substance," entirely lacking? Huxley wrote: "It is a fair average human skull." There is nothing to indicate Neanderthal peculiarities.

Is the Spy man a Neanderthal man? No. There is no Spy man at all. But there are parts of two skeletons found in 1886 at Spy, Belgium, and pieced together by scientists so as to resemble the object desired. Speaking of Mr. Spy, Prof. C. R. Knight says: "his lowering face [but neither face nor head is extant] accentuates his squat ferocity. . . . And his chin, where is it? [sure enough where is it?] That deep and heavy jaw [none extant, all pure fiction] and gorilla-like characters, etc."

Then, as to the Krapina man, which Osborn claims "dates from the last Interglacial stage." It consists of a group of bones found in a cave in Krapina, Croatia, by Prof. Kramberger between 1899 and 1905. As exhibited in Case III there are five fragments of bones, regarded by Osborn as Neanderthals, but by Kramberger as "the leavings of cannibalistic feasts."[4]

We have reproduced this minute description of the objects in Case III, partly to exhibit the exuberant fancy of Profs. Osborn and Knight and partly to place the issue clearly before the reader. The few fragments are so skillfully marshalled that the visitor is led to suppose that he is viewing real ancestors of man. The only difference between the bold forgeries of Haeckel and these "doc-

[4] In 1915, Prof. Keith, reversing his opinion of 1911, wrote that the Neanderthal races have completely died out. And Prof. Osborn allows that modern man is not a descendant of Neanderthals. And yet the title of the objects in Case III is: "The Immediate Predecessor of Modern Man, the Neanderthal Race." **(Natural History, XX, p. 234).**

tored" fragments is that Prof. Osborn is careful to state in guarded language that the objects are "reconstructions," though he is equally careful not to state the extent of such "reconstructions."

(D) THE HEIDELBERG MAN.

Another alleged link in the chain of the ascent of man from the ape is found in the Heidelberg Man, of whom Dr. Osborn writes: "the most ancient fossil relic of man is the massive jaw (Case II, 7, just left of the center) which was found near Heidelberg in deposits of the second Interglacial stage, perhaps as early as 200,000 B. C. A skull (8) has been modeled to fit this jaw by Prof. McGregor" *(op. cit.* p. 233). This celebrated jaw and teeth, discovered by laborers, near Heidelberg, Germany in October 1907, are preserved in the Heidelberg University. The teeth are well preserved and the jaw is the largest thus far found. As these remains were unearthed 79 feet below the surface, Prof. McGregor has constructed a rather fine-looking and modern skull to fit in with the evolutionistic hypothesis. Neither he nor Prof. Osborn, nor any other scientist so far as known is able to state specific proofs for assigning a date of 200,000 years B. C. to this *Heidelbergensis.* Prof. Osborn writes, "the so-called Heidelberg Man, a fossil which may be 250,000 years old....The Heidelberg man may be ancestral to the Neanderthal Man" *(op. cit.* p. 232). In another work he writes: "It would seem, that in the jaw and probably in all other characters of the skull, as they become known [how can they become known?] the Heidelberg race will be found to be a Neanderthal in the making *(Men of the Old Stone Age,* p. 100)." Obviously all this is purely conjectural.[5]

[5] Dr. Hrdlicka remarks: "There can be but little hope that other parts of the same skull or skeleton will ever be recovered ("**The Most Ancient Skeletal Remains of Man,** p. 23"). Hence the desperate expedient of "reconstruction" is resorted to. In fact, Dr. Osborn's statement that the jaw

In short evolutionists succeed no better with the Heidelberg man than with the others in their struggle to degrade man's origin to the level of the ape. Hence writes Prof. Steinmann: "The current evolutional hypotheses have driven me almost to despair. When a scientific branch of such predominant importance as the theory of descent gets off the proper track it naturally detrimentally influences all the branches of knowledge with which it is organically associated." *("The Theory of Evolution,* p. 230). He adds: "So it is with paleontology, which instead of having an independent basis, has become a vassal of the Darwinistic-Haeckelistic theory of evolution. It has taken the significance of the formation of species, without proof, into the area of fossil material. No wonder, then, that paleontology could not allow these academical prescriptions, and, when it tried to do so, made a fiasco."[6]

(E) THE GIBRALTAR MAN.

Little is known of the so-called Gibraltar Man, but much is made of him. Prof. Osborn writes: "The three casts numbered *seven* (Case III) are respectively from left to right, the female Neanderthal skull found at Gibraltar in 1848, a restoration of the same, and a reconstruction of half of the soft parts of the head. The lower jaw was restored from studies of ten other Neanderthal jaws *(op. cit.* p. 234)." With such slender data the

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is "entirely ape like in form," while "the teeth are altogether human and small as compared with the size of the jaw," throws doubt on the whole "reconstruction" scheme. Lull writes: "The teeth are regularly placed and the canines are not in any way bestial in their development, less so, indeed than in some modern men."

[6] In a remarkable work Prof. Ch. Depéret says: "The embryological methods of Haeckel have led the whole of paleontological research in a wrong direction. The naive pedigrees constructed according to them have crumbled just as speedily as they have arisen. They cover, as with rotten wood, the ground of the forest, and only render more difficult the progress of the future" **(Les Transformations du Monde animal).**

whole man is "reconstructed," and assigned a place in the Hall of Fame.

Hrdlicka writes: "The cranium is dirty yellowish to whitish in color. It is considerably mineralized. The stony matrix has been so far removed that all important measurements which the defective state of the bone itself permits can be made.—The frontal facial parts are relatively well preserved; the vault on the other hand is largely defective, but sufficient portions remain to permit of a number of possible valuable determinations and a fairly correct reconstruction" *(Skeletal Remains etc.)*. He adds: "The forehead is low and sloping. The cranial bones are thick, exceeding any in this line that can be found in normal modern Europeans."[7]

How is this creature viewed? Dr. Hrdlicka writes: "The upper alveolar process is largely absorbed, so that we cannot judge of the original prognathism [projection of jaws beyond upper portion of face] which was doubtless well-marked." Prof. Keith placed the cranial capacity at 1100 c. c. and as the brain capacity of the average adult white woman of to-day is 1235 c. c. Prof. Osborn thinks that on account of "the slight development of the supra-orbital [above the eyes] ridges," the skull was that of a woman. On the other hand Dr. Hrdlicka says: "*There is a marked and quite heavy* supra-orbital arch." Who shall decide whether Osborn or Hrdlicka is right? Again, though no one knows where this fragment of a skull was found and so cannot know the archeological age, Prof. Osborn unflinchingly places it in the Mousterian period and regards it "as the most important *missing*

[7] No one knows, where, when or under what circumstances, whether beneath or above the ground, the bones were found. The discovery is mentioned in Falconer's **Palaeontological Memoirs**, 1868, with the statement: "No record exists of the precise circumstances under which this interesting relic was found." Prof. Keith with vague information conjectured that it was found on the rock of Gibralter in 1848, and Prof. Osborn states categorically that it was discovered by Lieutenant Flint in that year, but fails to cite the proof.

link between the existing species of modern man and the anthropoid apes."

As the lower jaw is missing we can know nothing of the prognathism. But undaunted by lack of data, Prof. Osborn gives us in Case III a medium-sized jaw and chin "of a female Neanderthal skull," there being, however, absolutely no proof that the skull was that of a "Neanderthal" or of a "female." Not only so, but the "reconstruction" of the soft parts of the head (left side) resembles that of a modern philosopher instead of a woman living anywhere between 25,000 and 50,000 years ago. Again, we ask, where is the proof of evolution?

(F) THE TRINIL MAN.

Referring to the two groups, pre-human and human, in Case I of the American Museum, Prof. Osborn says: "Between these two groups have been placed a reconstruction of the skull and of the head of the Trinil or Ape-Man of Java *(Pithecanthropus erectus)* and a cast of the actually discovered brain case and two of the teeth (*op. cit.*, p. 231)." As this reconstruction of the Trinil Man and of the mythical Trinil race, is the key-stone of the arch erected by the ape evolutionists, we must examine it in detail.

All that is extant of this famous character consists of a small part of a brain-pan, two molar teeth and a piece of thigh bone, discovered in 1891 near Trinil, Java and described by Eugene Dubois, an intimate friend of Ernst Haeckel, at the third International Congress of Zoologists at Leyden in 1895. The scattered bones were found fifty feet apart; one of the teeth lay near the skull bone and the other near the thigh bone.

It may be stated at once that from these scanty remains, that would be contained in a half peck measure, Dubois constructed the *Pithecanthropus Erectus* (Ape-Man erect) and declared that, as this creature was neith-

er man nor ape, it must be a connecting link between man and the ape.

According to Hrdlicka, "The specimens were considerably mineralized, very heavy and harder than marble ....They are of great value, but the final word concerning their exact age and true biological position has not yet been pronounced." The date assigned by scientists is 500,000 B. C.[8]

There are no means of knowing whether the two teeth belonged to the same jaws, whether the skull and the thigh bone are those of the same creature, or in short whether we have here, as says the famous scientist Lubbock, *"A very large gibbon"* or a *"very small man."* Nevertheless anthropologists proceed to reconstruct. Unfortunately the two representative "reconstructions" differ from each other as widely as the poles. The Belgian ape-man of Professors Mascre and Rutot of Brussels, is quite another character from that of Professors Osborn and McGregor. The former is a stout, long-haired, pious looking seraphic creature; the latter (as exhibited in *Natural History,* Vol. XX, p. 229) is a short-haired beardless, scowling, large-mouthed, fierce looking creature quite in contrast with the pious expression of the Belgian conception. Which one of these "reconstructions" is correct? Or are both wholly ideal and valueless?

The Java Man a Human Being and not an Ape. After denying to other scientists for thirty years the privilege of examining the Java remains, Dr. Dubois finally in 1923 allowed American scientists to inspect the bones

[8] Rev. Dr. J. R. Straton, the famous New York preacher, asked a Columbia University professor and associate of Dr. Osborn whether he really believed that "those few old bones had been lying there in that gravel pit, beside what is now a rushing stream, and in the face of flood and fire, earthquake and volcanic action and the radical climatic changes which are known to have occurred upon the surface of the globe, for 500,000 years of time" (**New York Times,** March 10, 1924). The answer is not recorded.

in his home at Haarlam, Holland. Dr. A. Hrdlicka, writing in the *Daily Science News Bulletin,* says: *"Pithecanthropus erectus* will assume an even weightier place in science than it has held up to now. None of the published illustrations or the casts now in various institutions are accurate. Especially is this true of the teeth and thigh-bone. The new brain-cast is very close to human. The femur is without question human. The remains consist of the skull-cap, now thoroughly cleansed for the first time, the femur, three teeth, two molars, and one premolar." In other words the Java man is not the "missing link."[9]

(G) THE TALGAI MAN.

Next to the Neanderthal and before the Cro-Magnon man, Osborn and a number of others who pin their faith to him, as Grabau, H. G. Wells and the average recent text-book writers place the Talgai (Queenstown) skull, which a writer in *Nature* (March 1917) regards as "the highly fossilized and much fractured skull of a male youth, not more than 16." The same writer affirms that, while the face "retained much of the grossness and uncouthness of the apes," the brain-case had reached the stage represented in the modern Australian aboriginal. Where the evolution?[10]

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[9] The boldness and dogmatism of present day evolutionists are seen in the "faked" matter palmed off on the public in the Sunday Metropolitan Journals and in the Monthlies; a good illustration of which is afforded by the Sunday edition of the **American** of August 7, 1921, in which Dr. W. H. Ballou asserts that "This Trinil man is the earliest specimen of a man-like creature that has ever been found . . . it stood erect, had a well-shaped head and was tailed [how does he know?]. Science deduced from the skeleton [there is no skeleton] our evolution into the smooth-skinned, tailless creatures that we are today. . . From the most ancient legends [there are no such legends], it would seem that the tailed people [there are no tailed people] are true descendants of the Trinil Ape-Man who was not confined to Java, Borneo and New Guinea." Such is up-to-date science and Journalism.

[10] The bubble of the Talgai Skull was pricked by Archibald Meston, Chief Protector of Australian Aborigines, who showed that it is the skull of one of the Australian black boys shot and buried on the spot in 1848.

(H) THE CRO-MAGNON MAN.

Immediately before recent man Prof. Osborn and his co-laborers and other scientists place the Cro-Magnon Man. Very little of him is extant, but that little is made to serve an important purpose. The odds and ends of skeletal remains found in widely separated regions are pieced together according to the ideal of the restorationists. This remarkable character is reconstructed from the following parts: Two skulls discovered in 1867, at Furfooz, Belgium; three skeletons and fragments of others found in 1868 and known as the Cro-Magnon; two skeletons discovered in 1901 in the Grimaldi Grotto, Mentone and two skeletons discovered in 1914 at Oberkassel, Bonn, Germany.

From these slender data, the strange figure made to play such a prominent part in Apeology is reconstructed. Naturally what is lacking in fact is supplied by the vivid imagination of the reconstructionists.[11]

The Furfooz skulls are regarded by authorities as representing "A highly developed race of men whose descendants are the broad-headed now found in Holland and Denmark" (A. W. McCann). The whole hypothesis of the greatly lauded Cro-Magnon Man rests therefore upon the two isolated Grimaldi skeletons; but these are described as having "a number of resemblances to the African Negroid race." On the basis of these skeletons Prof. Osborn writes: "The highly evolved Cro-Magnon race entered Europe from the east and drove out the Neanderthals. This was a race of warriors, of hunters, of painters and sculptors far superior to any of their predeces-

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[11] Until recently anthropologists ignored these "finds" as valueless. Hughes Obermaier in his article, **Quaternary Human Remains in Central Europe (Smithsonian Report, 1906)** does not mention any of these; nor does Ales Hrdlicka in his **Skeletal Remains, 1913.** Recent Geologists, however, make much of them.

sors. The original type of the Cro-Magnon head belonged to an aged individual" *(op. cit.* p. 236).

Prof. Lull says: "The skull is entirely modern.... Nor is the brain in any way distinctive from that of existing man....The facial angle is equal to that of the highest modern man." The writer of the article Archaeology in the Encyclopedia Britannica also assigns an uncommonly high rank to the Cro-Magnons: "We are dealing with human beings [observe that he says human beings] whose intellect, to judge by their physical characters, should be on a level with that of the Fuegian or the Australian black....There are many astonishing problems in archaeology, but none so badly in need of solution" (p. 112). Huxley was of the opinion that the Cro-Magnon type might have belonged to a philosopher.

The common view of scientists of the Haeckel-Schwalbe-Osborn type is that the Cro-Magnons were a race far superior to the Neanderthals whom they displaced. Obviously they were not descendants of the Neanderthals, but came from some other region. This implies another line of men not racially related to the Neanderthals. In short, if the existence of the Cro-Magnons be conceded, they must have been men in the true sense, and so, Class I in the Hall of the Age of Man is both inaccurate and misleading—inaccurate in making the Neanderthals contemporary with the Cro-Magnons, and misleading in conveying the impression that the Cro-Magnons were descendants not only of the Neanderthals, but of the Piltdowns as well, when at most they could have been only later races, coming from, no one knows where.

(I) THE FOXHALL MAN.

In the *Asia* article, June 1924, Professor Osborn still further complicates the problem by the introduction of a new factor, a so-called Foxhall man, "known only" he says, "by his implements and his fireplaces, found in Nor-

folk, England." These remains were found in 1863 and resembling somewhat the Moulin Quignon jaw occasioned some discussion among French and English anthropologists. The stratum from which they came is not known and so nothing can be known as to their age. Dr. Arthur Keith writes: "The evidence in favor of the antiquity of this specimen is only presumptive" *(The Antiquity of Man,* p. 224).

Upon such a slender thread, the New York scientist, who boasts of dealing with facts, hangs his idea of the Foxhall Man, living 600,000 years ago and antedating the Cro-Magnon, Neanderthal, Heidelberg and Piltdown races. Here, again, the Comptean-Spencer dictum that the crude and simple are a proof of antiquity emerges. Fireplaces, cooking utensils and crude instruments adduced as proof that a certain type of man existed over five hundred thousand years ago!! Where the evolution?

D. Summary of Results Concerning Skulls and Skeletons.

(A) Gulf between Ape and Man.

In answer to the challenge that man has descended from the ape or from some descendant of the ape (though this comes practically to the same thing), the preceding examination shows that the gulf between the ape and man has not been bridged so far as the evidence from pre-human, semi-human or human skeletal remains goes.

(B) Restorations in Case I, Hall of the Age of Man.

In the Hall of the Age of Man the higher orders of animals are shrewdly so arranged as to convey the impression that there is no doubt of an ascending scale from the lowest to the highest. At the bottom of Case I we find part of a jaw of a being which, it is alleged, was the ancestor of *Propliopithecus Haeckeli,* from which there

sprang, in succession on the right, the gibbon, orang, chimpanzee and gorilla; in the middle is a line running with a slight curve from the jaw-bone to the top of the case, where is located the restored skull of the Trinil-Man, a veritable Cuvier or Daniel Webster head, the connecting link between the gorilla, on the right and the so-called Piltdown, Neanderthal, Talgai, Cro-Magnon, and recent man on the left.

It must be borne in mind that all these parts would not fill a peck measure. Then, too, the science of craniology is in no such state that one can determine absolutely the race, period or mentality of a skull, and least of all, of some fragment, as a chin, or skull-cap. One sees on the street every day long-headed, short-headed, flat-headed, round-headed men, men with short chins, men with long chins, or no chins at all (one of the absurdities of the "restorations" in Case I is that the immediate predecessor of the Trinil Man has the characteristic long Gorilla chin, while Trinil has next to no chin at all), men with thick skulls, others with thin skulls, men with high foreheads, men with low foreheads. In short if it be next to impossible to determine the race or intellectual power of men from the mere conformation of the head, is it not downright presumption on the part of Osborn, McGregor and Gregory to parade such stuff as up-to-date science? The Hall of the Age of Man ought to be labeled Hall of Fabrications Extraordinary.

(C) INDEFINITE CHRONOLOGY.

Then, again, the geological periods are not determined with such exactness that one can always be certain of the period to which a fossil belongs. The article *Geology* in the Encyclopedia Britannica after mentioning various calculations says: "No one who has made himself familiar with the actual composition of these formations, and the detailed structure of the terrestrial crust, can fail to

recognize how vague, imperfect, and misleading are the data on which such computations are founded." Accordingly we are not surprised that evolutionists are not agreed on the dates of the above fragments. Thus Osborn's dates are: Heidelberg, 200,000, Piltdown, 500,000, B. C.; Grabau, Heidelberg, 360,000, Piltdown, 125,000, B. C. Here is a difference of 160,000 years in the case of Heidelberg and of 375,000 in that of Piltdown. Grabau places Trinil in 500,000 B. C. approximately. As Trinil according to Osborn is older than Piltdown, his period is of course prior to 500,000, "It is not impossible that this ape-man (Trinil) is related to the Neanderthal man" (Osborn). If, according to Grabau, Neanderthal flourished, 40,000—75,000 B. C., we still have the incredibly long period of some 450,000 years between Trinil and Neanderthal. In fact, there being no safe starting-point, no unquestionably fixed eras, no definite geological strata in which to place the above fragments, each investigator is at liberty to classify as he sees fit.

It is significant that Grabau completely ignores the little two by four fossil regarded by Osborn as the hypothetical ancestor of the human race.

(D) AUSTRALIAN ABORIGINES OLDER THAN OLDEST HUMAN FOSSILS.

The whole theory that man was not essentially man from the first and endowed with true personality and self-determination, though in a low cultural stage, is shattered by the fact that the Australian aborigine, as allowed by practically all anthropologists, stands as low or as high in mental endowment as the fossil types reviewed above. Dr. Keith writes: "Of all the races of mankind now alive, the aboriginal race of Australia is the only one which, in my opinion, could serve as a common ancestor for all modern races. The common ancestor has to yield descendants which, on the one hand, might become the

typical inhabitant of Central Africa, and, on the other hand, the fair-haired native of North-Western Europe. The Australian native has those intermediate and generalized characters needed for such an ancestral form" *(The Antiquity of Man,* p. 270). In a later writing Keith says: "It is certain that there exists to-day on the earth, in the person of the Australian native, a type of human being as low in brain case capacity, and in mental development, as any of the types revealed by the prehistoric remains. . . . It is not impossible that these living men are direct representatives of the type from which even the fossil types sprang, and which has persisted, though the latter have disappeared from the face of the earth. They may also represent the stock from which the living races, African, Mongolian and European developed." *(New York Medical Journal).* Other authorities agree with Keith.[12]

(E) LATEST SCIENTIFIC VIEW—NEANDERTHALS IN THE DISCARD.

As these lines are being written there comes to hand a volume by Professor H. H. Wilder *(Man's Prehistoric Past)* containing a discussion of the bearing of fossil

[12] A. R. Wallace regarded "the Australians as representing the lowest and most primitive example of the Caucasic type." A similar view is held by Dr. Klaatsch, who, however, would date Australian ancestry still further back. "The Indo-Aryan origin of the Australian blackfellows is borne out by their physique. In spite of their savagery, they are admitted . . . to be far removed from the low or simian type. . . . They are mentally in the condition of children" (Prof. Channing Arnold, in **Ency-Brit.**). "The Australian aborigines, whom most ethnologists would rank as a separate race of mankind, are middle-sized . . . with features, suggesting, now the Negroid, now the Caucasian type **(New International Ency.)** In fact Huxley held that one of the earliest races of prehistoric Europe was Australoid in type and other ethnologists down to Keane and Schoenten consider the Australians on somatic evidence related to the men of Spy and Neanderthal in Quaternary Europe. Evolutionists, seeing that man at every stage of history is man and not ape, take refuge in the claim that man is a descendant of an ape-man, which is pure assumption and not science. It is not the physical form, but the mental endowment which distinguishes man from all lower orders.

skulls on the ancestry of man. Receding from earlier extreme positions, he boldly eliminates the Neanderthal man from the problem, or at least the line of succession, saying "The Neanderthal type had no future" (p. 451), that is died out. This still further reduces the available material. Proceeding from the latest to the earliest remains, we reach some interesting conclusions. Wilder regards Bruenn II 25,000, B. C. as a type of *Homo sapiens*, or true man. He also allows that the Cro-Magnons were men in the true sense, though low in attainment. The next older type, omitting the Neanderthal, is the Piltdown. The contradictory views are recited above, but the trend of opinion is to the effect that we have here, as says Schwalbe, a well-developed Homo sapiens, but no indication of a distant species; and this, too, about 125,000 B. C. On page 442 Wilder reminds us that on account of the lack of data "the investigators felt the necessity of placing the specimen in a new genus." Prudence would have dictated silence. In short, there is little proof that Piltdown was in the required line.

The next earliest human relic, of which a full description is given above, is the Heidelberg jaw, which, together with Piltdown was one of the creatures, says Wilder, that through "the more definitely formed artifacts" and their advance in general "first earned the right to be called men" (p. 152). That is, to use a hackneyed illustration, they probably made boot-straps and lifted themselves from the ape estate to the human—uncommonly clever thought!! All the world knows that the idea that an ape transformed itself into a man, another species, if not genus, contradicts at once all known experience and history, and the well established Mendelian law of the permanence of species. Professor Wilder appears to be too level-headed a man to believe any such camouflage. Apes in the thousands of years of recorded history have

not made artifacts, nor have they interbred with human beings—the very thought of men cohabiting with the filthy creatures is abhorrent. They are of a different species. Of the hypothetical ape-man we know nothing. Do Osborn, Gregory, McGregor, Wilder, really hold that man could have interbred with their ape-man?

In their extremity, ape-ologists, with the possible exception of Herr Wilder, take refuge in the most astounding fiction in all history by fathering the *Propliopithecus* of Haeckel, a purely hypothetical figure, living 600,000 B.C., the alleged progenitor of orangs, gibbons, chimpanzees, gorillas and man. As Wilder fails to refer to this hypothesis, we assume that he rejects it; but he comes forward with an almost equally questionable hypothesis in assuming that early eoliths, or worked stone implements, were made by a species called *Dryopithecus* (oak-ape), which he intimates may have been "an intelligent ape" (p. 144). But the Encyclopedia Britannica says that its supposed relationship to man "is discountenanced by the great relative length of the muzzle and the small space for the tongue."

Weighing the evidence and finding it wanting, Professor Wilder writes: "Properly speaking we should now rest at this point [correct] and await further finds before continuing our speculation, but the point is one of such vital interest that, in the absence of actual data [yes, *absence of actual data*] we may be allowed to indulge in hypothesis while we wait" (p. 451). Admitting that the data are vague and scanty, he proceeds to develop an hypothesis of his own, which, it must be allowed, has on the assumed premises, something to commend it. But at the end of five pages he concedes about all we can ask: "Naturally, the data are still insufficient for any definite postulates concerning human ancestry" (p. 455). Well said.

E. Human Skeletal Remains in America.

Skeletal remains of extinct forms of animal life have been unearthed in America, and proofs of civilization much earlier than formerly suspected are forthcoming every day, but it is still a question whether human skeletal remains of any glacial or interglacial period have been discovered. A widely current view, championed by over-confident sciolists, that skeletal remains found in America, prove man's descent from the ape, is absolutely without foundation in fact.[13]

(A) THE SO-CALLED NEBRASKA MAN.

Recently a so-called Nebraska man, another alleged missing link, was the sensation of the hour. In May, 1922, Dr. H. F. Osborn published *(Journal of American Museum)* an account of an imperfect molar tooth found in a Pliocene deposit in Nebraska. The ever resourceful professor and his colleagues seized the occasion to make the most of the "find" and with a great flourish of trumpets announced that this tooth resembled those of the Java Man. On the strength of this solitary molar tooth, Professor Osborn with the self-assurance of the scientist proceeded to add to his collection a new genus of extinct humanity and dignify it with the sonorous name *Hesperopithecus,* which being interpreted, means Western Ape-Man. But Dr. Smith Woodward, Keeper of Geology in the British Museum, sets forth in "*Nature*" (June 10) his reasons for regarding this Nebraska tooth, as "the tooth of a Pliocene *bear.*" A writer in the Nineteenth Century well says: "Thus we find that working on the same tooth, one expert reconstructs a human being, while the other brings into being a primitive bear." Will

[13] Ales Hrdlicka, Hughes Obermaier and other scholars, writing in the various volumes of the Smithsonian Reports, and in scientific journals, have shown that the contention that certain skulls found in this country are those of a kind of missing link, must be dismissed as lacking scientific proof.

people blame us for scepticism on this whole skull argument of scientists?[14]

(B) THE SANTA BARBARA HOMO BARBARENSIS.

In the summer of 1923 some excitement was caused by the announcement that the "missing link" had at last been found in a mound in Santa Barbara, California. It was heralded as a skull from Paleolithic times dating anywhere from 500,000 to 1,000,000 years B. C., *and was christened Homo Barbarensis.* But a group of geologists, including Dr. R. T. Hill, a retired geologist of the Smithsonian Institution; Dr. W. S. Kew, of the United States Geological Survey and Dr. A. S. Stark of the University of California, in due time announced that the fossils discovered belonged to a type of real human beings, not hitherto known to anthropologists, but living only as far back as about 5,000 years ago. Thus another bubble "burst."

(C) THE LOS ANGELES SKULLS AND SKELETONS.

The extent to which the exuberant fancy of the average newspaper reporter can go is seen in the following dispatch sent out from Los Angeles March 25, 1924: "That a race of thinking men lived and died in America thousands of years before even the ape-man made his appearance in Europe, Java and elsewhere, was the deduction drawn to-day by geologists from the skulls and skeletons discovered in the mesa pit near here." This would mean that the human race existed in America some 500,000 years ago. But this bubble has also been pricked.

[14] A late American authority on geology writes: "At present there is no evidence that paleolithic man came to America, for all the human remains so far found are clearly referable to the North American Indian. . . In point of culture, however, the American Indian represents all stages from paleolithic to the most highly developed Neolithic type, according to the climate and other physical conditions of the regions occupied by the various tribes" (Grabau, **op. cit.** II, p. 922). Professor Osborn has nowhere, so far as we have observed, acknowledged his unfortunate "break" regarding the Nebraska camouflage.

Professor Chester Stock of the University of California, writing in *Science*, July 4, 1924, says: "The skulls do not exhibit the primitive features seen in the Neanderthal man of the European Pleistocene. The remains resemble closely those of American Indians, but have not been definitely determined as belonging to racial types represented by the Channel Island Indians of Southern California."

(D) NO APE-MEN IN AMERICA.

All attempts to prove that ape-men existed in America have been abortive. The whole situation is summed up by Professor John C. Merriam, of the Carnegie Institution, in an article on Present Status of Investigations concerning Antiquity of Man in California" in *Science*, July 4, 1924; "Up to the present time all the human remains discovered are of what have been recognized as modern types. So far as has been determined they do not differ materially in their characteristics from the various races included within the group of the American Indians." The same observations apply to other parts of America.[15]

The public ought to be warned against accepting as true gospel the many newspaper accounts of the discovery of the "missing link." Older readers will remember the nine days' wonder caused by the Calavaras man, the Lansing man, the Mississippi man, the Cardiff giant and

[15] Although Paleolithic man is unknown in America, recent explorations have established the fact that "Mound-Builders," "Bluff-Dwellers" and other races flourished in America at an early period. Excavations in widely separated regions, such as Yucatan, Oklahoma, Canada, Ohio, Ecuador indicate that civilized man lived on this continent many centuries and possibly millennia ago. The New York Times of Dec. 8, 1923, carried an article announcing "the discovery in Ecuador of a human skull of the Pleistocene period, 100,000 to 150,000 years ago." If it should be found that the skull actually dates from that remote period, the discovery would rank as one of the most important of recent years. Before accepting conjectures as to the exact date, one would like to see the proof that the bones are really those of a human being, and not of a bear, ape or chimpanzee.

other hoaxes. From a record kept by the writer during the last five years of some sixty such "announcements," it is found that not one of them was true and authentic. The history of the "missing link" in America (and elsewhere) can be written in three words: "There is none."

Second Part.

THE PECULIAR ENDOWMENTS OF MAN.

A. Fact and Fiction Regarding Fossil Skulls and Skeletons.

(a) only a few fragments of fossil apes.

The recovered remains of fossil apes are surprisingly few. From the manner in which scientists speak of such fossils one would infer that there are thousands of them. Professor Branca, an evolutionist, is authority for the statement that the sum total of fragments of anthropoids is a paltry nine, six European, two Asiatic, one African. Omitting the long scientific names, we find four species known only through a single tooth, one species known through an upper jaw, one species through a thighbone, two species through upper and lower jaws, one species by a skull and a few teeth. (In this list is the Java fossil, regarded by Branca as an ape). On such lamentably few fragments scientists rear the whole ambitions structure of the relationship of ape and man.[16]

(b) why no traces of man's early ancestry.

Recognizing the paucity of ape-fossils, Wallace could well speak of the unsolved problem, Why no traces of

[16] If a minister of the Gospel were to draw on the imagination as do some scientists, not a few in the audience would suspect an abnormal development of the cranium. In the light of the lack of data, Professor Schwalbe writes: "The farther down we go the more does the ground slip from beneath our feet. Even the Lemuridae show very numerous divergent conditions. . . . Thus the farther course of the line of descent disappears in the darkness of the ancestry of mammals" **(Darwin and Modern Science).**

man's long ancestry have been discovered. In the millions of years with which scientists conjure one would expect to find some actual missing link. The multiplication of centuries and millennia only increases the difficulty. "If there was a common ancestor of all the present ape-world and man, why have we the four kinds of anthropoid apes, and the many kinds of monkeys, all living in the world at present, and why have all the representatives of the humanoid stem, as it is called, disappeared entirely? What possible cause can be assigned for the disappearance of all that did not attain to the form and stature of modern man?" In short, we are asked to accept as facts many mere conjectures of science, for which there is no direct proof. This we have pointed out in the section on Geology and in the various charts.[17]

(C) APES AND MEN DIFFER ANATOMICALLY.

Prof. Otto Hamann, in his great book *"Die Abstammung des Menschen,"* which is largely a treatise on the structure of the human body compared with that of the ape, shows from the testimony of specialists the similarities and the differences (the latter being very marked). He says: "The more or less upright position of the body of the anthropoid apes depends mechanically upon causes fundamentally different from those which apply in the

[17] According to science "we must believe that in the Miocene age, or before it, there existed a race of ape-like animals of which not a single trace has been found amongst the fossils that have been discovered. Then we must believe that some of these were born with an abnormally large brain, and, although no possible cause can be assigned, a very considerable number of them about the same time. Then we must suppose that some circumstances arose by which these individuals were isolated from the rest of the ancestral apes. Further, we must imagine that the same thing must have happened in regard to some variation of structure tending towards the human form. Then we must conclude that this process was repeated many times, sometimes in enlargement of the brain, sometimes in modification of structure. . . Finally we must imagine some cause to account for the disappearance from the earth, on each occasion of the introduction of an improved type, of the remaining animals of the old type, leaving no descendants."

human body. . . . The upright walk of the ape depends for the most part upon muscular work. In the human body on the contrary, the connection of the head with the spinal column is where the spinal marrow enters from the skull throughout the aperture at the back of the head into the spinal columns." In short, the ape does not walk upright like a man.[18]

(D) HAECKEL'S FALSIFICATIONS.

Not a little of the misinformation regarding man's alleged descent from the ape has its source in Haeckel's falsifications. It is shown conclusively in Assmuth and Hull's book on *"Haeckel's Frauds and Forgeries"* that the great German atheist was convicted of falsifications in three different connections in 1868, 1879 and 1908. Thus Haeckel, taking a genuine figure of a *Macaque* embryo cut off essential parts, as the arms, legs, heart, navel and yelksack, so as to make it as much like a fish embryo as possible and then labeled it as "Embryo of a Gibbon in the Fish Stage." In another case, taking as an original the full embryo of a man, as found in another book, he omitted such essential parts as the arms, legs, heart, so as to make it look like a fish-embryo and labeled it "Embryo of a man in the Fish Stage."

Coming now to the direct question of the evidence from skeletal remains of man's descent from the ape, we record Haeckel's outrageous modification of Huxley's

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[18] Hamann adds: "Bumueller, in his thorough treatise upon the thigh of man and of the ape, has laid stress upon the distinction, that man goes upon his feet without the use of his arms for support or balance; that body, thigh, and lower part of the leg lie as it were in a line, and that the axis of length takes a vertical position to the level ground. The ape on the other hand, even the gibbon, cannot stand upright like man. Even when he raises himself, the thigh and leg never stand in a line, but the thigh forms with the body and the lower part of the leg, and the latter again with the level ground, a greater or smaller angle. . . Were the ape to stretch his leg like a man neither safe walking nor standing would be possible to him. . . On that account no ape can even temporarily walk upright, that is, like a man."

plate of the ascent from the gibbon, orang, chimpanzee and gorilla to man. Huxley's plate does not indicate more than a general resemblance, as he had the candor to admit. "Haeckel substitutes two new figures, makes the feet of the apes flat like those of men, straightens up their backs, cuts off the neck bones of the gorilla, and creates an impression of sequence altogether untrue to nature, so as to support his theory of descent."Huxley's row gives the impression of a rather heterogeneous set of beings; Haeckel's row is designed to create the impression of a progressive sequence. Haeckel's manipulation of the forms enables him to say that the differences are merely those of size, purely quantitative.

These representations of Haeckel are entirely contrary to fact, if we may credit anatomists of repute. Any text-book on zoology will give clear evidence that the skeletons of apes and of men are different in structure, as the build of the hind extremities, upright posture, gait of man, feet, etc. Obermaier in his great work cited above says: "Morphologically the gulf between the two groups of apes and men is so great that now-a-days no serious investigator thinks of asserting any very close connection between them."

(E) HAECKEL'S CONFESSION.

The series of exposures led Haeckel to offer the following confession: "To put an end to this unsavory dispute, I begin at once with the contrite confession that a small number (6 to 8 percent) of my embryo diagrams are really forgeries in Dr. Brass's sense; those namely for which the observed material is so incomplete or insufficient as to compel us....to fill in and reconstruct the *missing* links by hypothesis and comparative synthesis ....I should feel utterly condemned and annihilated by the admission, were it not that hundreds of the best observers and most reputable biologists lie under the same

charge. The great majority of all morphological, anatomical, histological and embryological diagrams. . . .are not true to nature, but are more or less doctored, schematized and reconstructed."

This is a humiliating and significant confession in many ways. *First,* while the old saying, "false in one thing, false in all" is probably too harsh, the confession leads one to suspect that Haeckel made the most of anything looking in his direction. In fact, Brass proved that Haeckel in many cases too intricate to be recorded here, tampered with and changed the drawings of other biologists, in one case having taken fifteen or sixteen vertebrae from one monkey-embryo, altering the name and adding tail vertebrae to another. "He also added to a human embryo eleven vertebrae not in the original drawing."

Second, though the charge of "doctoring" and false schematizing was indignantly denied by German and Austrian scientists, it was allowed that there is a wide difference between drawings of what one has actually seen and objects imagined to exist; in the latter there is room for unlimited play of the imagination, as one can see in the "restorations" in every Museum of the world. It is very much like the story of the Snark. The Snarks were a people who held that if a proposition, however extravagant, be repeated three times it became true. The Hindoos describe a lie as "that which is not." Possibly there are scientific lies.

Third, we do not for a moment wish to be understood as implying that the Osborn-Gregory-McGregor 'restorations' are to be classed with the Haeckel fabrications, but we may be permitted to suspect that these eminent sages have in some cases drawn on a vivid imagination somewhat more than the facts warrant. One may say of the restorations in the five Cases in the New York Museum,

What Professor J. Ranke said of Klaatch's hypothetical ancestor of man: "What a charming picture, what a fanciful design, but—we are in quest of facts, not pictures and theories."

(F) MAN'S SPECIAL BODILY CHARACTERISTICS.

Evolutionists have no satisfactory theory as to the manner or order in which man gained the characteristics which distinguish him from any animal, ape, or alleged ape-man. When did he get his large brain? When did he shed the hairy covering of his supposed ancestors? When did he acquire his erect posture? When did he get his shorter upper limbs and longer lower limbs? Whence the human hand? When did the teeth become differentiated from the whole ape tribe?

The answers of Darwin, Cope, Drummond, Keith, Osborn, Conklin, to these questions are few, feeble, fatuous. Darwin speaks of the loss of hairy covering as due possibly to a warm climate. But why for the same reason did not animals shed their hair covering? Then, too, what animal has ever invented clothing for itself? Keith, abandoning his earlier view, finally held that the Java Man could not possibly be a "missing link" and so any attempt at correlation fails.[19]

Evolutionists pass lightly over the great question of the bareness of man's skin, as if it were of no consequence. We search Huxley, Cope, Osborn, Coulter, *et id omne genus* in vain, for any serious attempt to answer the question. In fact, as Schwalbe shows, the shedding of the hairy covering being a disadvantage could not have been brought about by natural selection, or any cause,

[19] Keith writes: "The evolution of our posture is not nearly so simple a problem as those writers and thinkers have supposed. . . . The closer one studies the matter, the magnitude of the structural transformation required by a change of posture becomes more and more apparent. There is not a bone, muscle, joint, or organ in the whole human body but must have undergone a change during the evolution of our posture."

environment, or tendency thus far suggested by scientists.

(G) TOO MUCH MADE OF BODILY SIMILARITY.

Evolutionists make altogether too much of certain bodily similarities of the ape and man. Similarity is not sameness. Mivart says: "If man, that is if a rational animal, were to be created at all, he must have been made more or less like some other animal" and then he proceeds to show that as he was not intended to creep on the earth, or to live in the water, or to fly in the air, he could not be made like a reptile, or a fish or a bird, and that the most fitting animal for him to resemble would be in the order of the Primates.

Some animals are nearer to man than the anthropoids. The parrot can be taught to imitate the speech of man. The ant far surpasses the ape in intelligence, as was shown by Lord Avebury: "When we consider the habits of ants, their social organization, their large communities, and elaborate habitations; their roadways, their possession of slaves, it must be admitted that they have a fair claim to rank next to man in the scale of intelligence."[20] The dog proverbially is a faithful companion of man, but, though he enjoys the fire and has often seen fuel put upon it, he has never been known to put any on to keep from freezing. He lacks the power of initiative. The ape in fact is a low, filthy, sensual creature.[21]

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[20] If the bee had become extinct ages ago and some scientist of today had come upon some fossil honeycombs, he would be likely to infer from the regular hexagonal forms that some Neanderthal genius had made them. Or if the beaver had vanished from the earth and some of his dams had been discovered the up-to-date scientist would declare that at last the "missing link" had been found, for the ingenuity of the beaver, it will be allowed, equals that of the Cro-Magnon artists so adroitly exhibited on Mural II of the New York Museum.

[21] The best way to study apes and monkeys is in some Zoological Garden. Watch the dirty, unintelligent, sickly leers of the creatures and form your own conclusions.

(H) DIFFICULTIES IN CHANGE FROM PRIMITIVE APE-MAN TO MAN.

Scientists do not explain the enormous transformations that must have taken place under the evolutionistic hypothesis of man's descent. Did the first change take place in one individual or pair, or in many? If in one, then all the rest must have perished or left no progeny. If in many, by what law did they suddenly spring up all over the earth? No answer is forthcoming.

Then, too, there must have been many changes in the size of the head and brain, feet and hands, and in the posture of the body. "There must have been some cause that would in each case in some way, isolate the individuals of the new type from those of the old, so as to prevent the advantage gained being lost by interbreeding with the old type." Scientists, of course claim to surmount the difficulty by assuming vast ages, millions of years. But this is the old logical fallacy of "*the imperceptible*," as if zero multiplied by zero would give something else than zero.

B. The Cultural Development of Man.

The general reader who has perhaps become somewhat "rusty" in geology will understand that certain outstanding facts are accepted, not only by geologists, but by every one who has kept abreast of the times. The facts of science must be accepted; the explanation of such facts may be challenged and indeed has often been shown to be false. So here: we are not from Missouri, but the facts must be "shown." First the facts, then the epistemology, metaphysics, and theology. After the What, the Whence and Wherefore?

(A) MAN BEFORE THE DAWN OF AUTHENTIC HISTORY.

That man existed on this globe long before the dawn of authentic history has always been accepted as a fact;

that he was man, a self-conscious, self-determining being, with powers differing in kind and not merely in degree from the lower orders, in short made in God's image, but advancing slowly from lower to higher stages of culture, has always been allowed. But with the rise and dominance of the evolutionary hypothesis, science has been driven to hold, as a logical sequence of its law of continuity, that man descended from the ape or from some descendant of the ape. In its assumption of millions of years before the appearance of modern man, science constructs a plausible, but fallacious argument, that if only time enough be granted, the inorganic can become the organic, the plant an animal and an animal, a man. No proof for such transformation has yet been adduced; all claims for such changes move in the sphere of conjecture and imagination.[22]

With all the evidence afforded by geology, some things still remain unsettled, among them, the real, the absolute, and not merely the relative date of some of the skeletal remains classified by us as human, by the common run of scientists as at least half, if not wholly ape. Thus an anthropologist writes: "It is by no means easy, in the present state of the land surface, to place the remains in their relative sequence" *(Ency. Brit.* II, p. 246).

[22] Long before Darwin, Haeckel and Osborn appeared on the scene, geologists here and there held that the **genus homo**, the true man, lived in Pleistocene, Pliocene and even Miocene times. The finding of human remains in early deposits is mentioned by Tournol and Christol in 1828, by Schmerling in 1833, and dePerthes in 1841. English geologists found evidence that man lived contemporaneously with the Pleistocene or Post-Tertiary animals. Goodwin-Austen in 1840 records that human remains were discovered in the same strata with those of the Mammoth, the Rhinoseros, etc. Not the fact, or the antiquity of such remains is in dispute, but whether, as uniformly held heretofore, they are the skeletons of men, or of half-apes, as now held by the reigning school in science. As no known type of ape, gorilla, chimpanzee, or monkey, has ever throughout the thousands of years of recorded history, exhibited anything more than the inborn instinct of animals in general, has ever become a person who can say, 'I am I,' 'thou art thou,' or has wit enough to clothe itself or to cook its food, it follows, that, so far as facts go, the ape has ever been an ape, and man a man.

Hence the claim frequently made that man has existed millions of years must be taken with considerable allowance.

(B) CULTURAL STAGES.

In a former chapter the geological eras and periods with typical forms of life were outlined; here we take up the so-called "culture stages," a technical phrase, denoting the extent to which flint or bone implements, carvings, paintings, imply works of man.

1. *The Middle Quarternary or Pleistocene.*

The cultural stage began with the Middle Quarternary, divided into the early and the later. From the character of the chipped and other objects, geologists have arranged for the early period four stages, the names being taken from some locality in which the remains were found: Pre-Chellean, 125,000 B. C. Chellean between 75,000 and 100,000 B. C.; Acheulean, between 75,000 and 50,000 B. C., and Mousterian, between 50,000 and 25,000 B. C.[23]

In the later stages are the so-called Aurignacian-Solutrian people, who "developed the art of engraving and sculpture and decorated the walls of their caves with rude engravings of animals" (Grabau, *op. cit.)*. As no race of apes or chimpanzees has ever been known to develop any such arts, these people must manifestly have been human beings, though possessing only the most primitive arts. Possibly the Cro-Magnon races belong here. At the close of the Middle Quarternary most geologists place the Azilian-Tardenoisians, who are thought to have in-

[23] The reason for ascribing pictures and paintings to rational beings and not animals is that animals are endowed with instinct, which is "purposive action without consciousness of the purpose," a state beyond which the animal never gets. Wallace remarks somewhere that one can educate a small child to think, but can merely train a dog to repeat mechanically certain acts. Even the ant and the beaver never get beyond the instinct stage, and so in the case of the ape and monkey tribes.

CHART III

Human Cultural Stages: Races and APPROXIMATE TIME PERIODS. After Grabau, Keith, Osborn, Haug. Read from below.

System	Glacial and Interglacial Stages	Human Races and Culture Stages. Europe	Time (largely conjectural)
Upper Quaternary	Post-Glacial Age	VI. Age of Steam and Electricity	Roman to Modern.
		V. Later Iron Age	
		IV. Earlier Iron Age — Australian Aborigines	500 B.C. to Roman.
		III. Bronze Age	1,000 to 500 B.C.
		II. Neolithic or New Stone Age	
		3. Late Neolithic	2,000 to 1,000 B.C.
		2. Typical Neolithic	3,000 to 2,000 B.C.
		1. Early Neolithic	7,000 to 3,000 B.C.
		(Campignian Culture)	10,000 to 7,000 B.C.
Middle Quaternary or Pleistocene	6th Glacial	I. Paleolithic or Old Stone Age	12,000 B.C.
		Upper Paleolithic — Grenelle Race	
	5th Glacial	8. Azilian-Tardenoisian	
		7. Magdalenian — Cro-Magnon and	16,000 B.C.
		6. Solutrian — Grimaldi Races	
		5. Aurignacian	
	4th Glacial	4. Mousterian — Bruen II, Australian Aborigines	25,000 B. C. 125,000-100,000 B.C.
		3. Acheulean — Neanderthal Man	75,000 to 40,000
	3d Interglacial	2. Chellean	
		1. Pre-Chellean — Piltdown Man	500,000 (Osborn)
Lower Quaternary or Early Pleistocene	3d Glacial	Late Eolithic — Heidelberg Man, Unknown Races	360,000-200,000 B.C. 410,000-360,000
	2d Glacial	Early Eolithic — Australian Aborigines	475-000 B.C. to 1925, A.D.
		(Pre-Cultural Stages)	
	1st Glacial	Trinil Man (Pithecanthropus erectus) (Hypothetical)	
		Propliopithecus Haeckeli (fictitious)	510,000-475,000 B.C.

vaded Western Europe and exterminated the Cro-Magnons. They were the assumed Fur-Fooz race, possibly of Asiatic origin (Grabau).

2. *The Neolithic Age.*

After the Paleolithic or Old Stone Age came the Neolithic or New Stone Age, in which a more highly cultured type of man appeared. Science allows that they originated in Asia and brought with them a somewhat advanced culture. They gave up the Nomadic life and settled in permanent communities, just as Scripture affirms of the early tribes in Mesopotamia and Palestine. The view of geologists that this age began about 7,000 years ago is not necessarily in conflict with the fifth chapter of Genesis, for, as Dr. W. H. Green of Princeton Theological Seminary held, the antediluvians there mentioned may have been and probably were heads of clans or tribes and not merely of individual families, in which case the period would be longer by several thousand years than that indicated in the margin of the text. This was in one sense the age of copper, bronze and iron. Copper was used in Egypt about 5,000 years ago and was succeeded by the invention of bronze and iron not much later. From this time on the history of man is traceable with a considerable degree of certainty. See Chart III.

(C) GEOLOGICAL AND EARLY BIBLICAL CHRONOLOGY.

Can the geological and early Biblical chronology be reconciled? Some say, no; others, yes. The intelligent Bible student knows that the dates in the margin of the Authorized Version of the Old Testament are not a part of the text, that is are not "inspired," but the calculations of scholars, and subject to revision. In the seventeenth century James Usher, a British theologian, devised a scheme of Biblical chronology generally accepted until

the science of Biblical criticism undermined it at various points, especially in the early chapters of Genesis.[24]

Even before the rise and dominance of modern science and the unearthing of an immense body of Accadian, Babylonian, Assyrian and other very ancient literature, Old Testament scholars, were disposed to find in the text of Genesis indications that the Usher date of 4004, B. C., for the Creation must be abandoned. Dr. W. H. Green of Princeton Theological Seminary in an article in the *Bibliotheca Sacra,* April 1890, discussed the subject at some length. As a matter of fact, the chronology of the first eleven chapters of Genesis is not fixed absolutely in the text and admits a wide margin of interpretation. In the case of chapter V Dr. Green argues that the names of the antediluvian patriarchs are not necessarily those of individuals, but rather of clans or dynasties. We know this to be true of some names in Chapter X, in which Kittim, Cush, Sidon, Aram, Ophir and others are names not merely of individuals, originally, but of clans, and nations. This usage may hold in the case of the names in chapter V.

On the other hand, as Dillmann points out, this view suggested already by Enkelmann and Crawford, is questionable since the begetting of sons and daughters and in the case of Enoch, the translation, are inapplicable to dynasties or nations. To add to the perplexity, the age of the father at the birth of the first-born, differs somewhat in the three texts. In whatever way the peculiar numbers in Genesis V be construed, there is sufficient warrant for the view that a longer than the Usher chronology

[24] The text, or actual phraseology of the Pentateuch is extant in three forms; the Hebrew, the Greek version known as the Septuagint, and the Samaritan, which agree remarkably in the contents, but vary considerably in the chronology. That some textual corruption exists is shown from the fact that while the Hebrew text gives 1656 years as the period between Adam and the Flood, the Samaritan gives 1307 and the Septuagint 2242. The discrepancies, whether due to oversight or intentional changes, yield what may be called a Longer and a Shorter chronology.

is implied. If it should appear that the text of Genesis at this point, without any arbitrary manipulation, allows a considerably longer period than in the Usher system, the geological and other evidence of man's early advent need not contradict Scripture.[25]

(D) NATIVE HUMAN ABILITY UNCHANGED IN HISTORIC TIMES.

Buckle remarked years ago that the child born to-day amid the most favorable surroundings is not, as to innate powers, more highly endowed than that of barbarians; and that the capabilities, intellectual and moral, of the English, French and Americans are not greater than those of the Greeks, Romans and Babylonians. One might speak of the evolution of families, nations, and of man from the ape, if men to-day had increased in height, weight, strength, length of life and intellectual capacity over men three thousand years ago. Where are the Aristotles, Moses, Isaiahs, Sophocles, of to-day? In fact from the time of Max Nordau (see his *"Degeneration")* to the latest hour, thinking men all over the world are beginning to fear that the human race instead of "evolving" to a higher stage (as to the evolutionistic postulate demands) is degenerating so far as native endowment goes. The profoundest thinkers everywhere (not all of them Christians by any means) are becoming convinced that some truly ethical, ennobling and redemptive system like that of Christianity is necessary to save the race from decline and extinction.

Evolutionists are unable to explain why the human race has not improved in native ability in historic times.

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[25] One may recall, too, that in the Chaldean chronology according to Berosus the period from the Creation to the Flood is reckoned at 432,000 years. The relation of this to the Hebrew chronology is unknown; nor has the problem of the principles underlying the chronology of Chapter V ever been "satisfactorily settled" as says J. Skinner on Genesis in the International Critical Commentary.

Different hypotheses, all of them containing some truth but none of them entirely satisfactory, have been advanced. Some writers hold that it is due to a "violation of the principles of good breeding," others advance the idea that man has reached what the Germans call a *Dauer Typus,* permanent type. But why should not man under the evolutionary principle go on to the Superman stage of Nietzsche? Why stop now? Heaven knows that something is wrong with all of us. Why does not "evolution" give us a better breed of the human race? Why does the evolutionistic panacea for the ills of mankind give us the "jim-jams?" In fact, if there is no advance there will be no retrogression. As says Conklin, "there has been for ages a *futile* reliance upon good environment. Men do not so improve the races of plants and animals" *(Heredity and Environment).*

In short, the popular idea that environment and training can change the inner character of men is scientifically, educationally and religiously untenable. Conklin writes: "In most of the mutations studied by de Vries, Bateson, Morgan and others, some factors have dropped out and Bateson suggests that at present all *new forms* arise only by the loss of factors or by fractionation of factors and the new factors *are not* added from without" *(op. cit.,* p. 404). If, as seen presently, the greater half is hereditary, evolutionists are unable to explain how the *amoeba* gradually became an ape and the ape, a man.[26]

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[26] The claim of scientists, that man is a descendant, not of an ape, but of an ape-man, is at once pure conjecture, a shifting of the problem one stage further back into the unknown and an admission of failure to establish their main thesis as to man's origin.

CHAPTER VI

ARE CHRISTIANITY AND EVOLUTIONISM RECONCILABLE?

Having reviewed the claims of Christianity in chapter I and of evolutionism in succeeding chapters, we are prepared to ask, Are they reconcilable? Be it understood, however, that with evolution in the sense of progress, growth, change, improvement, development, and evolution in the old and true sense of unfolding we have no quarrel, but only with the false, spurious, unproved, contradictory sense of an intrinsic, continuous, progressive change and process, according to immutable natural laws, by means of resident forces, pervading the whole universe and covering every realm of the lifeless and the living, and every department of human activity; force, life, mind, soul, spirit being ultimately one.

I.

IS THE CURRENT EVOLUTIONISM COMPATIBLE WITH CHRISTIAN THEISM?

The basic question is not so much the relation between religion and science as between a true Christianity and a false evolutionism.

A. The Problem at the Heart of Religion.

As seen above, chapter I, the first question asked of any religion is, What is its view of God? The same is true of science and philosophy. It is to the credit of philosophy that it usually has a theory of the world-ground or ultimate causality. This is only partly true of science to-day. It shies off from such questions, as the old science did not. Scientists, as shown in the Excursus,

start with certain assumptions and postulates as to the ultimate forces and laws of nature, and, though rarely denying the existence of God, they shrink from mentioning his name on the plea that even if there be a God, He is a mere figure-head in the origination of force, life and human personality and in the running of the universe today. Obviously, such an attitude does not predispose one to an acceptance of the evolutionary hypothesis. God is at the heart of nature as of religion.

(A) DO SCIENTISTS BELIEVE IN GOD?

A considerable number of scientists, recognizing a plan, law, design in the universe and in the earth, accept some form of theism. But it is difficult to determine whether they accept the Christian theism of the Roman Catholic and Protestant Churches, or merely a personal idealism, as that of Eucken, the Cosmic theism of Sir Oliver Lodge, or the so-called Universal Spirit of Theosophy, false mysticism and of non-Christian cults in general. Reserving a detailed examination for a later section, we reproduce the substance of an investigation conducted by Professor James H. Leuba and contained in his *The Belief in God and Immortality.* He addressed a questionnaire to members of the American Psychological Association, The American Historical Association, The American Sociological Society and other learned bodies. As the number of members ranges from 3,000 to 8,000 he selected the last name on each page as reflecting a fair average.

On the question of belief in God he submitted three propositions, as follows: "1. I believe in God in intellectual and affective communication with man. I mean a God to whom one may pray in the expectation of receiving an answer. By 'answer' I do not mean the subjective, psychological effect of prayer. 2. I do not believe in a God as defined above. 3. I am an agnostic." The ques-

tions were sent to 500 persons. College and university professors made up more than sixty per cent. of the total, while the men employed by the Government amount to twelve per cent. and in industries eleven per cent.[1]

Without recording the difference in views between Leuba's classification into "greater" and "lesser" men of science and omitting fractions, the ratio of scholars believing in the existence of God is: psychologists, 14 per cent.; biologists, 16; sociologists, 18; historians, 32; physical scientists, 35. From this it appears that a considerably larger proportion of historians and physical scientists believe in a God than biologists, sociologists, and psychologists. Leuba explains: "psychologists, sociologists, and biologists in very large numbers have come to recognize fixed orderliness in organic and physic life and not merely in inorganic existence; while frequently physical scientists have recognized the presence of invariable law in the inorganic world only." If this distinction is correct, it indicates that psychologists, sociologists, and biologists accept the baldest mechanism and naturalism. Whether Leuba's conclusions are even approximately correct has been questioned. He has, however, supplied the most detailed statistics so far available.[2]

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[1] Under the head of belief in Immortality there are five questions as follows: "I. I believe in personal immortality for all men . . . conditional immortality, i. e., for those who have reached a certain state of development. 2. I believe in neither conditional nor in unconditional immortality of the person. 3. I am an agnostic. 4. Although I can not believe in personal immortality, I desire it. 5. I do not desire personal immortality." The number of believers in immortality was, according to the answers, considerably larger than the number of believers in God.

[2] Leuba in a letter to the **Philadelphia Ledger**, Jan. 5, 1917, writes: "Not long ago some rash person affirmed in the English press that it is extremely doubtful whether any scientist or philosopher holds the doctrine of a personal God. Thereupon a Mr. Tabrum collected from among English scientists 140 expressions of opinion on this question: 'Is there any real conflict between the facts of science and the fundamentals of Christianity?' But the author did not define what he meant by the 'Fundamentals'; neither did he ask his correspondents to state the meaning they attached to that expression. Strange to say, very few thought it necessary to be explicit. Lord Rayleigh wrote: 'In my opinion true science

Whatever the ratio of scientists who accept the Biblical cosmogony and anthropology, it is clear that those who reject such a world view are by far in the majority and in possession of the field, dominating the scientific trend of the day and regarding with haughty contempt any one who is still so ignorant and unprogressive as to hold a Biblical and theistic view of the universe.

Leuba also made a study of the beliefs of college students with the following results: "The students' statistics show that young people enter college possessed of the beliefs still accepted perfunctorily, in the average home of the land, and that as their mental powers mature and their horizon widens, a large percentage of them abandon the cardinal Christian beliefs [obviously under the negative and sceptical influence of the teachers]. It seems probable that on leaving college from forty to fifty per cent. of the students with whom we are concerned deny or doubt the fundamental dogmas of the Christian religion." Leuba's conclusions indicate that science and evolution, as held and taught to-day, lead to a denial of the Christian doctrines of God and immortality.[3]

(B) THE NEW (FALSE) EVOLUTIONISM AN OLD NATURALISM.

From the preceding review it is clear that whatever the word evolution formerly denoted, it has undergone a

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and true religion neither are nor could be opposed. . . . The significance of this statement depends altogether upon what is meant by 'true religion.' You may have in mind some conception of religion which would tolerate neither the Apostles' nor the Nicene creed, nor even a personal God."

[3] Leuba questioned callow sophomores ("wise fools") whether there is a God and received such answers as might be expected. Some said, they saw no evidence of a God anywhere, everything being the result of natural law. A typical answer is the following: "I do not see that God has done me any good or has helped me in my work." **Der Apfel faellt nicht weit vom Stamm.'** One is reminded of Socrates' biting sarcasm in one of Plato's Dialogues that in the degeneracy of the age mere striplings are called upon to solve profound questions of state and philosophy.

radical change of meaning. In its scientific sense it denotes that everything in the universe physical, mental and spiritual, has taken place according to natural law and through intrinsic forces. All other meanings are colorless in religious and theological discussion. The meanings listed under the above sub-heads *one* and *two* may or may not be exhaustive; it matters not in the ultimate issue. But this third viewpoint, *B*, 3 above, is radically false and misleading and subversive of the Christian theistic conception. See pp. 57-71.

In the pre-Darwinian and early post-Darwinian periods the word evolution was still understood quite generally, though not without exception, in a sense that may be denominated theistic or at least deistic. Look at the proof. Sir Isaac Newton at the close of the *Principia* declares that "the whole diversity of natural things can have arisen from nothing but the ideas and the will of one necessarily existing being, who is always and everywhere, God Supreme, infinite, omnipotent, omniscient, absolutely perfect." A century later when Laplace submitted his *Mêcanique Cêleste* to Napoleon, the latter inquired why the word God did not occur in the treatise. Laplace replied haughtily: "Sire, there is no need of him," implying that there is no God back of the nebulous mass assumed by Laplace. To Bentley's question regarding the origin of the solar system, Newton replied: "I answer that the motions which the planets now have could not spring from any natural cause alone, but were impressed by an intelligent agent."

The fundamental difference between the science of Newton's days and ours is the difference between the Newtonian and the Laplacean viewpoints, the one, theistic and supernaturalistic, the other, naturalistic, untheistic, and practically atheistic. In the pre-Darwinian period, scientists were expected to define their position on

the question of a First and Absolute Cause, and not merely to dilate on the development of the physical universe, a start once having been made. "We have to note," says James Ward, "the existence in our time of a vast circle of empirical knowledge in the whole range of which the idea of a Necessary Being or a First Cause has no place....If modern science were questioned as to this omission of all reference to a Creator, it would reply: "I am not aware of needing any such hypothesis." *(Naturalism and Agnosticism,* I, p. 5). That matter has mind is held by prominent scientists.[4]

(C) ATTITUDE OF KANT AND DARWIN.

The attitude of Immanuel Kant, the founder of modern philosophy, as also that of Charles Darwin, the originator of the current doctrine of evolution, on the question of Christian theism, are in dispute or at least equivocal. We mean Christian theism, and not any one of a dozen systems that are theistic only in name.

(1) *Kant's Viewpoint.*

Since in Kant's system only empirical selves and sense objects can be known, a proof of God's existence is impossible (*Critique of Pure Reason*). Yet in the Third Critique *(Practical Reason)* Kant holds that the existence of God must be predicated in order that the highest good may be possible. "Freedom, Immortality, and God" he declares...."gain objective reality through an apodictic practical law, as necessary conditions of the possibility of that which the law commands shall be its object." He

[4] Sir Oliver Lodge writes: "A table can exhibit hesitation, it can seek for information, it can welcome a newcomer, it can indicate joy or sorrow, fun or gravity, it can keep time with a song as if joining in the chorus and most notably of all it can exhibit affection in an unmistakable manner" **(Raymond)**. This is unquestionably the natural conclusion of the accepted premise of science that all is force. We have constantly pointed out that science cannot account for three things; force (or energy), life and mind.

grants that there are supersensible objects, though nothing definite is known of them.[5] He nowhere positively states his acceptance of the Christian theistic conceptions as formulated, e. g., in the Ecumenical Creeds.[6]

(2) *Was Charles Darwin a Theist?*

In the *Origin of Species* (1859 and Am. Ed. 1920) Charles Darwin writes: "There is a grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one." If God created life-forms, he may inferentially be supposed to have created not merely the physical universe but also animal and human life as well. On page 274, Vol. I, of *The Life and Letters of Charles Darwin*, by his son, we find: "In my most extreme fluctuations I have never been an atheist in the sense of denying the existence of God."

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[5] Contrary to popular belief, it was not Charles Darwin, nor even Laplace, but Kant who laid the foundation of the current, cosmic, atheistic evolutionism. Only a half-hearted theist at best, Kant in 1753 published a remarkably original paper on Universal Natural History and Theory of the Heavens (**Allgemeine Naturgeschichte und Theorie d. Himmels**), in which he not only suggested "the derivation of the present forms of ponderable matter from simpler and more universal material, but also laid the foundations of the modern nebular hypothesis (elaborated by Laplace) and even anticipated Darwin and Spencer in suggesting that the entire evolutionary process from nebula to man is a natural one. Kant's watchword, "Give me matter, and I will show you how a caterpillar can be produced," seems to be adopted by the whole guild of naturalistic scientists from Haeckel to the youngest and most up-to-the-minute teacher of science in our public schools and colleges. Kant, however, admitting difficulties and therein differing from present-day sciolists, granted that one can not know how the caterpillar originated without knowing how the universe originated. Possibly Kant, like Darwin, deemed it prudent discreetly to veil, rather than bluntly to avow, his real views in his major works.

[6] "Kant was an ethical theist. . . . Incarnation in the Kantian sense was simply the personalization of the moral ideal, and the Church a society to help towards its realization. . . . His system may be described as a translation of Christian dogmatics into the terms of a moral rationalism" (A. M. Fairbairn, **The Place of Christ in Modern Theology**, p. 206). In Kant's world view, according to J. A. Leighton, there is a Cosmic Thinker, a Creative Reason, who in thinking creates the objects of his thought, etc. (**The Field of Philosophy**, p. 200).

Per contra, in a letter to Asa Gray he writes: "I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance. Not that this at all satisfies me" *(op. cit.,* II, 105). Again, "I am conscious that I am in an utterly hopeless muddle. I cannot think that the world as we see it, is the result of chance, and yet, I cannot look upon each separate thing as the result of design" (II, 146). In another connection (II, 170) Darwin remarks that he could have no doubt of design if he could believe that there is a Designer distinct from the mechanical forces active in natural selection. This comes perilously near naturalism. When the Duke of Argyll in conversation with him referred to the wonderful contrivances in nature to effect certain results, Darwin remarked: "Well, that often comes over me with overwhelming force; but at other times—(and he shook his head vaguely) it seems to go away" *(op. cit.,* I, 285). One recalls Carlyle's brusque comment: "I have known three generations of Darwins, *atheists all.*"[7]

(D) THE ATTITUDE OF SCIENTISTS TO-DAY.

There are several reasons which render it difficult to ascertain the real view of American scientists. The first is that even the boldest infidels and atheists do not care to offend a very considerable Christian public by an open avowal of their world-views. The second is that frequently their ideas are couched in such Delphic phraseology that the meaning is far from clear. But enough can be gleaned to enable us to reach a fairly correct conclusion.

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[7] The fact that Darwin with his usual candor and logical acumen could not reconcile the new views with the old theism indicates a parting of the ways. As one of the writers in **Fifty Years of Darwinism** remarks: "Darwin did not in explicit language deduce the legitimate inferences from his viewpoint, yet friends and foes alike at once drew what was the necessary corollary from the theory of natural selection."

A recent writer says: "Cosmic evolution and organic evolution, the growth of suns and stars, of earth and plant, and man, are continuous parts of one process.... different phases of one continuous, all-pervading process of creation....Evolution, based on permanent natural laws....A universal creative process back of evolution" (Patten, *op. cit.* pp. 30, 32). What this "universal creative process back of evolution" is, Patten does not say. He missed a grand opportunity. We notice, that the words "God," "Creator," "Ultimate Cause" do not occur in the Index, and unless we have overlooked some passages they do not once occur in the book. What is the "creative process?" Is "process" creative? No. It is merely a series of acts or movements that originate nothing.[8]

Conklin allows that there is "no mechanical explanation for the ultimate mechanism of the universe" and that "no Newton has yet arisen to make even the production of a blade of grass comprehensible, according to natural laws ordained by no intention" *(Direc,* etc. p. 224). Conklin with all his professions of theism never once suggests the reason lying near at hand, viz. God, the Creator of the Universe and ordainer of its laws. He nowhere states in what sense he is a theist and especially a Christian theist. He indeed quotes Asa Gray, the botanist, as accepting a Designer and Providence, but immediately voices "the more scientific attitude," as expressed by Henderson, who admits that "the riddle of the origin of things surpasses us;" and yet Henderson, Conklin, Osborn and scientists "explain" the origin of man in "an amoeba," common in all fresh-water ponds and ditches." These men seem never to have studied Genesis I with half the care they devote to Haeckel.

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[8] Another writes: "As for God, the general impression is that science has 'little use for that hypothesis'; or, God is translated into a concep-

Professor G. T. Ladd, writing on theism, remarks that during and after the European war a great wave of atheistic thinking and living in accordance with materialistic conceptions of the origin, nature and destiny of mankind swept over and well-nigh submerged the Christian world. The cause in Ladd's judgment was due to the teaching of the natural and physical sciences. After "the triumph of the theory of mechanism, the God of theism was no longer needed, at the beginning, during the aeons of the world's existence, or as determining its end" (*Methodist Quart.* Review, July 1919).[9]

According to Bernard Bosanquet, a remarkable characteristic of the age is the effort to find a substitute for the Christian religion in all kinds of schemes fundamentally philosophic, as Neo-Idealism, Neo-realism, meliorism, not to mention a host of others devised by men who have no fitness for the task and which all share the fate of the pragmatism of James and the instrumentalism of Dewey, which, says Bosanquet, accept principles which undermine the revelation of Scripture.[10]

(E) WHAT IS THE RELIGION OF EVOLUTION?

We are told that "the religion of evolution is a religion of progress through struggle and effort." But all striving implies a goal or standard. Where in evolution is an ethical or religious goal or standard to be found? Not in the law of the conservation of energy, or the im-

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tion of the sum total of universal force, or energy; or, He is frankly Unknowable" (Hudson, op. cit. p. 71).

[9] Ladd continues: "Energy, it was alleged, was the result of evolution, even the conception of God. All theism—the Christian and churchly sort included—was considered a purely natural evolution." Professor J. B. Watson, New York, a behaviorist psychologist, says that "freedom of the will has been knocked into a cocked hat and that such things as the soul, consciousness, God and immortality are merely mistakes of the older psychologists."

[10] Bosanquet continues: "Religion is identified with morality . . . This is the essence of ethical (evolutionistic) religion which is coming to be more and more the current form of religion, or, the popular substitute for it."

mutability of nature nor in any other discovery of science. Nor "in an infinite process of evolution." Here again Conklin by the use of "infinite" implies that from eternity evolution, and not God, is back of all things. How such a conception can be harmonized with Christian belief passes comprehension. The climax of absurdity is reached when Conklin regards, "the whole creation groaneth and travaileth in pain....waiting for the manifestation of the sons of God" (Rom. 8:22, which clearly refers to the resurrection power of Christ) as a proof that "the religion of evolution is at one with the religion of revelation" (p. 240). Where in "the religion of evolution" do we find a recognition of sin, redemption through Christ, immortality of the soul and a glorious resurrection?

Conklin has much to say about a plan and purpose in evolution, but he does not explain how they got into evolution. We read: "The religion of evolution is the religion of the world's greatest leaders and teachers, the religion of Confucius and Plato, and Moses and Christ" (p. 246). What a miserable potpourri, Confucius and Christ!! Then, again, how much of religion is there in an electron, ion, atom, in the law of continuity, conservation of force, germ plasms, and the law of gravitation?[11]

(F) ALL KINDS OF RELIGION.

A peculiarity of recent attempts to substitute a new formulation of Christianity for the old creeds is that they are individualistic, not collectivistic. Every one has his own religion. We read of the religion of the artist, of the lawyer, of the physician, of the man on the street, of

[11] In the new religion of evolution it would be necessary to change the time-honored hymns of Christendom. We should have: "Evolution, lover of my soul, let me to thy bosom fly"; "Evolution, I my cross have taken, all to leave and follow thee"; "All hail the power of Evolution's name, let anges prostrate fall"; "In the hour of trial, Evolution plead for me" and many others.

the society or club woman, and of the scientist. Before we can decide whether religion and science are in conflict, we must know which one of the various conceptions of religion is meant. We saw above, chapter I, what the essentials of Christianity are and the reconciliation must be on that basis, at least in the initial stages. A typical example of 'reconciliation' from the side of science is furnished by a famous physicist, Professor R. A. Millikan, who writes on "A scientist Confesses his Faith." His position on the following points is well taken: the unscientific character of atheism, the existence of God, things happening in the world, not by caprice, but by law, a progressive revelation of God to man and a revelation in nature as well as in Scripture.

But we take issue on the following points. He argues that the element common to all Christian Churches in the United States is "the developing of the conscience, the ideals and the aspirations of mankind." These, however, are rather the results of Christianity than the fundamental factors. The Churches of the Federal Council accept the Deity of Christ, his atoning death and the operation of the Holy Spirit in the new birth. Cardinal Newman's twofold classification of men as the Once-born, by nature and the Twice-born by grace, adopted by James in his "Varieties of Religious Experience," is probably accepted by all Christian Churches and differentiates them from all others. But the second birth, or regeneration, is a distinctively supernatural act, and so evolution breaks down at this point. Professor Millikan cannot get a start for his scheme of "developing ideals" without the being born anew, emphasized by Jesus and constituting in fact his basic creed (John 3: 1-36).

Again, we read: "If you in your conception identify God with nature, you must perforce attribute to Him consciousness and personality, or better superconsciousness and superpersonality." Not so. To identify God

with nature is to deprive Him of true personality. What "superpersonality" and "superconsciousness" can be, no one has ever explained. Mortals are at best only partly conscious at any time. God is absolutely and perfectly self-conscious at all times.

(G) CREEDS AND THEOLOGIES.

Professor Millikan speaks of "creeds and theologies which have completely passed on." This is one of those sweeping assertions which mean nothing. The greatest recent authority on creeds writes: "It is often stated that dogmatic tests are unknown to science. This, however, is an aggravated statement. If the doctrine of an accredited teacher of science diverges very widely from the normal, the results are likely to be extremely unpleasant to the teacher....If any one doubts that modern science has dogmas, let him attempt as a professor of chemistry to teach the doctrine of the alchemists, or even of Paracelsus....and he will soon find to his cost, that though the dogmas of modern science are not usually expressed in written creeds, they are at least as definite and their sanctions quite as emphatic as those of religion" (Charles Harris, *Creeds or No Creeds,* p. 244). Harris, lecturer in St. David's College, points out that scientists, who make much of evidence and experience, may not object to the ancient creeds, as for example the Nicene, which has stood the test of centuries and has not been invalidated in any of its articles by any discovery of science.

The outcry against creeds springs from a desire to make it appear that any definite expression of opinion on doctrine is unnecessary and a curtailment of freedom. But as a matter of fact, not only science and scientists have creeds, but all parties, clubs, fraternities, guilds and every group of persons associating for a common purpose. If a man joins a lodge or society he is expected to subscribe to some fundamentals. If Professor Millikan

desired to join a society for the propagation of evolutionism he would probably be asked if he could subscribe to the fundamentals of that cult.

No Longer a Question of Creeds.

It is no longer a question of creeds, but of the fundamentals of Christianity. Evolutionists evaluate the universe and man in terms of science. Everywhere we have the antithesis, creation versus evolution, vitalism versus mechanism, religion or irreligion, faith or unbelief, the supernatural or the natural.[12]

In this connection we may profit by the words of Dr. Charles A. Briggs (Union Theological Seminary) uttered shortly before his death: "I challenge any man, to produce any valid results of modern philosophy or modern science that will in the slightest degree impair the Christ of the church as represented by her creeds and institutions." This bold challenge in defence of "the Christ of the Church" and "her creeds" is issued by one entirely competent to express a mature judgment and outweighs the vagaries of a whole ten-acre field of men who dipping a little into science and philosophy and failing to think through the profound truths formulated in the historic creeds, proceed unblushingly to *"reconstruct"* Christianity from the ground up. Such efforts share the usual fate of fads and isms and are then consigned to the museum of theological curiosities. Twenty years after an

[12] A recent writer, touching on the relation between evolution and modernism, says: "The method of his [Loisy's] criticism is liberally constructive, and his aim is idealistic, spiritualizing and mystical, in obedience to the same law of unfolding, according to which, as some hold, the material universe, the race of man, social, political and religious institutions, languages, literature, mythologies, traditions, and the sacred books of the nations, were built up one after and into the other, cumulatively through unnumbered ages. . . Modernism is a movement . . . which seeks and aims to force an adjustment between the Church . . . and the results of physical science and literary criticism. Back of all, and associated with, both science and criticism there lies a philosophical theory, speculative and rationalistic in type" (John B. Rust, Modernism and the Reformation, pp. 300, 168).

attempt at theological reconstruction, the celebrated Dr. Horace Bushnell admitted his failure, humbly saying: "I had not sufficiently considered the difficulty of the problem."

(F) THE NEW GOSPEL OF SCIENCE.

Whatever Darwin's cosmogony may have been, the bolder of his disciples (Huxley, Haeckel, E. D. Cope and probably the majority of American college professors) follow out consistently but often blindly the plain inferences of his evolutionism, an untheistic worldview. Not all evolutionists, even the most radical, would accept Haeckel's dictum, that God is "a gaseous vertebrate," even though such conclusion be legitimate on the assumed premises. If proof were needed that science is drifting in this direction it could be seen in Leuba's conclusions (as presented above) and in the voluminous literature of the subject, including articles in ponderous reviews, popular newspaper compilations and practically all the text-books used in high schools, colleges, and universities, which not only omit all reference to God as Creator, but by a subtle naturalistic line of thought convey the impression to immature minds that all takes place through natural law without a Law-giver back of it.[13] A Russian scientist writes: "Man like all living nature is an entirely material being. The mind is mere property of the body. Science has brought in a new gospel; its practical conclusion is simple—the old world must be destroyed, and we must begin with the two lies which have ground the world into slavery—the first is God, the second duty." Though we detest his doctrine, we have a higher regard for the Russian in his candid avowal than for college and university professors who are often wolves in sheep's clothing. "In France many scientists and pub-

[13] See such books as Burrell's **The Evolution of the Earth and its Inhabitants** and **The A, B, C of Evolution.**

lic men are avowed atheists. So, too, are most anarchists" (Micou, *Basic Ideas in Religion*).

The fallacy of any claim to disengage the facts of science from their ultimate significance is illustrated in Professor Royce's treatment of psychology. He writes: "I try to tell him [the reader] a few things that seem to me important, regarding the most fundamental and general processes, laws and conditions of mental life. *I say nothing whatever about the philosophical problem of the relations of mind and bdy, and nothing about the true place of mind in the universe" (Outlines of Psychology,* p. vii). Who but a specialist cares about descriptions of sensation, habit, attention, and the usual grist in books on psychology? The serious reader, even the average school-boy, wants to know something about the *psyche,* the soul, the person, and will probably be most interested (as the writer can testify through fifty years of experience) in the very problems omitted by the author, and will want and ought to know the true place of mind in the practical affairs of life, if not in the universe. So, of other sciences, astronomy, physics, biology, and the rest, the average citizen wants to know not merely the What and How, but also the Whence and Wherefore.

The fundamental evolutionistic conception of the invariability and universality of natural law throughout the whole cosmos carries with it logically, in the view of the great body of evolutionists, the implication that any intervention from without, even for the realization of a higher end, is an impossibility; in short it negates the idea of a Supreme Being. The thoroughgoing theist believes also and even more strenuously and logically in the uniformity of natural law, but sees in such law, only secondary causes, not an impersonal force latent in the universe from eternity to the exclusion of God, but the devel-

opment of a plan, order, purpose, originating in a Supreme Personality.

1. *Invariability of Natural Law.*

The evidence shows that a large body of scientists, and not a few ministers and theological professors, entertain premises, which, if logically developed, land them on antitheistic ground, despite their desire to cling to some form of Christian theism. The underlying principle of the only evolutionism that is in dispute is a crude naturalism. What is naturalism? It is that scientific and philosophical "view of the world, and especially of man and human history and society, which takes account only of natural (as distinguished from supernatural) elements and forces" (*Cent. Dic.*). Theologically, it is "the doctrine that all religious truth is derived from a study of nature without any supernatural revelation, and that all religious life is a natural development unaided by supernatural influence" (*ibid.*). Is the reader ready to allow that true religion is derived from the operation of purely natural forces to the exclusion of what Scripture says about the source of religious life?[14]

According to James Ward, naturalism designates the doctrine that "separates Nature from God, subordinates Spirit to Matter and sets up law as supreme; it means, to quote Huxley 'the extension of the province of what we call matter and causation and the concomitant banishment from all regions of human thought of what we call

[14] According to naturalism "the world of phenomena, of things sensible, is the one and only reality. It claims that we know nothing beyond nature. God, therefore, is an illusive fancy or a synonym for the sum total of all mechanical forces. Thought is a mere product or accompaniment of certain forms of motion in nervous matter, from which it is inseparable. Psychology is a branch of physiology, and that is a form of mechanics. Man, therefore, is a helpless automaton" (Micou, op. cit., p. 207). In true naturalism, "the supernatural is eliminated from nature so that all its phenomena may be traced back to simple, unequivocal and easily understood processes, and the conclusion is reached that everything happens 'by natural causes' " (Micou, p. 210).

spirit and spontaneity....till the realm of matter and law is coêxtensive with knowledge, with feeling, with action" (*Nat. and Agnos.*, I, 186). Ward continues: "This naturalistic philosophy consists in the union of three fundamental theories: (1) the theory that nature is ultimately resolvable into a single vast mechanism; (2) the theory of evolution as the working of this mechanism; (3) the theory of psychological parallelism or conscious automatism, according to which theory mental phenomena accompany but never determine the movements and interactions of the material world."

As seen above the original and legitimate meaning of the word evolution implied mind controlling physical forces; in the current pseudo-evolutionism, the term evolution is indeed retained, or rather monopolized, with a new and wholly indefensible connotation, as denoting "the process by which the mass and energy of the universe have passed from some assumed primeval state to that distribution which they have at present. Also it is implied that the process will last till some ultimate distribution is reached, whereupon a counter process of dissolution will begin" (Ward, *op. cit.*, I, 187).

But can any theory of the universe, scientific, or otherwise start with an assumption contrary to our whole experience? Not, according to Herbert Spencer, who writes: "Be it a single object or a whole universe, any account which begins with it in a concrete form, or leaves off with it, in a concrete form, is incomplete." Let us apply this to the nebular hypothesis, which in one form or another is assumed by science." A nebula presupposes colliding stars or meteoric swarms, whose material constituents are dissipated by the heat which their collision has produced; but these colliding masses in their turn imply still earlier nebulæ. So the cloud presupposes vapour, cloud or water that had previously evaporated."

Though all this is arguing in a circle, the average scientist expects a gullible public to swallow it. May there not have been, as indeed an English astronomer suggests, an earlier or pre-nebular stage, during which, cold masses of primal matter (as taught in Genesis I) were moving through space in all directions (Vid. Croll in *Stellar Evolution*)?

2. *The Old Evolutionism Predicated Mind*

A fundamental fallacy of naturalism and the current evolutionism is that "the material world is a self-contained whole, primary, fundamental, and independent of mind. Minds, then come to be looked upon as secondary and episodic; mere collateral products, that arise as often as matter falls into the appropriate organic condition; *psychoses* that are powerless to act upon their concomitant *neuroses*" (Ward, *op. cit.*, II, 983. The consequences of this materialistic view will be pointed out later. But it is necessary to state the extremes to which the naturalistic view leads, as indicated in the viewpoint of Huxley, who boldly declares that if we must choose between matter and mind, "the materialistic terminology is in every way to be preferred. For it connects thought with other phenomena of the universe....whereas the alternative, or spiritualistic terminology is utterly barren, and leads to nothing but obscurity and confusion of ideas."

The exact reverse of this astounding statement is more in keeping with all that we know of matter and mind, for nowhere do we to-day see, nor has any age ever seen, that matter thinks, even in the most rudimentary forms. A generation ago we were told that materialism is dead, but here it crops out in a worse form than ever.

Again, if, as Laplace averred, there is no need of a God to account for the universe and its laws, there is in the current scientific movement no room for man or mind in the true sense, since everything is caused by "a fortui-

tous concourse of atoms," without aim, purpose or design, a proposition so monstrously absurd that the dullest man in the world would protest. If the Huxleyan premises are valid, "if Darwinism be true, if Mind is to be driven out of the universe, and accident accepted as a sufficient cause for all the majesty and glory of physical nature, there is no crime or violence, however abominable in its circumstances and however cruel in its execution, which cannot be justified by success, and no triviality, no absurdity of Fashion, which deserves a censure" (*A gentleman with a Duster*, p. 21).

In short, "Either the universe is mechanical, or it is teleological; it is not likely to be a mixture of the two. But to justify naturalism, the mechanical theory must explain everything; what it does not explain must be unreal and illusory. Naturalism has for its base of operations the primacy of the physical series" (Ward, II, 63) and is perforce driven to substitute mere impersonal force for mind, spirit, spontaneity, freedom.

As naturalism has no place for God, personality, morality or immortality, it is practically atheistic and pessimistic.

B. Things not Accounted for by Evolutionism.

(a) Evidence and Authority.

As seen in the Excursus, all reasoning must start with a certain number of self-evident propositions. The scientist has no advantage over the theologian. This truth is constantly ignored. Thus we read: "Everywhere evidence is demanded in place of authority, and the times call for a restatement of the *reasons* for the faith that is in us" (Conklin, *The Direction, etc.*, p. XV). Has science some new logic or epistemology? No. It is the same old empirical, inductive, pragmatic procedure, which must in the end call on deduction for its generaliza-

tions, that is on authority of some sort. Dr. A. T. Ormond, many years professor of philosophy in Princeton University writes: "Nothing is rationally explained that is not grounded in something that has more reality than itself....The sufficient ground reason of anything is something that qualitatively transcends it....After science has exhausted all its resources in bringing out the nature of things, it has only brought into clearer light the demand of reason that only by connecting it with the self-existent spring of its existence do we reach its final meaning and explanation" (*The Philosophy of Religion*, pp. 59, 86). "Nature and history as such do not yield an absolute standard authority. The absolute standards which science uses are derived from faith" (H. Bavinck). Evolutionists are disposed to ignore the wisdom of the ages.[15]

(B) EVOLUTION MEANS ANYTHING OR NOTHING.

That the term evolution means anything or nothing is signally illustrated in a book recently appearing. It is by Professors J. M. and M. C. Coulter, University of Chicago, who, in "*Where Evolution and Religion Meet*," lament that "the doctrine of evolution" is greatly misunderstood. But they fail to clear up the situation. Excepting an elaborate argument for "organic evolution," they nowhere give a clear statement of evolution in its deeper sense as a world-view or philosophy of nature and man. They simply say: "Evolution is change; organic evolution is that type of change in which a living organism (plant, animal, or man) becomes 'better adapted to the environment,' develops and perfects the equipment with which the requirements of life are met" (p. 3). Af-

[15] "Attention should be called to the illogical procedure of discarding the codes and systems that constitute the inherited wisdom of the past. . . Especially is this unwise in an age in which evolutionary theories have linked us everywhere in the different phases of our development with the past" (Huizinga, **Authority**, p. 91).

ter describing the progress and striving of man, they write: "This is evolution, and it is this evolutionary prospect that interests, inspires and ennobles mankind." If this were all that is meant by evolution, there could be no issue, for progress and historical development have always been taught by the Church. The authors choose to blend in one unscientific mishmash the licit and illicit uses of the word evolution and then affirm "since evolution is an established fact it cannot be anti-Christian" (p. 101). Has science established it as a fact that the universe is eternal, that matter and force are indestructible, that the lifeless has produced life, that the mere life of the animal becomes human personality, that the soul is an epiphenomenon of the body, that sin is but a remnant of a pre-human animal state, that man is his own redeemer, that science supplants revelation, that all things in the universe are governed by natural law, that supernatural intervention has never taken place and that the law of continuity from star-dust to a Newton and Christ are absolute? Until science has proved these things and a few others it cannot be said that evolution is an "established fact" in the sense of a universal and controlling principle. As a sop to an unthinking public the authors retain the word God, but they give Him next to nothing to do in the affairs of the universe.[16]

II.

UNTHEISTIC EVOLUTIONISM.

As seen above the term evolution is used in three chief senses: (1) change, progress, improvement; (2)

[16] In spite of assertions that evolution has been proved, one finds that rank evolutionists allow that the proof for both Darwinism and evolution in general is largely subjective. Thus Professor V. L. Kellogg writes: "But such a list [referring to the classic examples of the Ancon sheep, the Paraguay cattle, etc.], even if it could be extended to a score, or to a hundred, of cases, is ludicrous as objective proof of that descent and selection under whose domination the formation of millions of species is supposed to have occurred" (**Darwinism Today**, p. 18).

growth, unfolding, development; (3) A continuous, progressive change, according to certain laws by means of resident forces. The first two of these meanings are well established and cause no controversy. The third is challenged. Under this view the universe has been, is now and always will be a closed system. All is the result of natural and uniform forces; stars, plants, animals, man being but the unfolding of inherent forces; freedom in man is excluded, all is practically fatalistic, nothing is supernaturalistic. In the language of Ward, the universe is "a vast automatic mechanism;" or, as says Walker: "No distinction is made of man from nature or of God from the world." This view which may be designated as untheistic evolutionism occurs in various forms.

A. Atheistic Evolutionism.

A denial of the existence of God is boldly avowed by Haeckel, Buechner, Condillac, Feuerbach. Haeckel says: "The monistic philosophy asserts that all phenomena are produced by mechanical causes, and not by pre-arranged and purposive causes." This excludes will, mind, intelligence, God from the cosmic processes. By a shrewd combination of the law of conservation of force, invariability of natural law and eternity of matter, it is an easy transition to the idea that atoms and electrons have unconscious purpose and even rudiments of mind. Thus Sir Ray Lankester writes: "To me the conclusion has for many years commended itself—that the materialist and mechanical scheme of nature (including man's nature) elaborated by physical science, is true and trustworthy, whatever there may be outside and beyond the possibilities of human knowledge" (Preface to Hugh Elliot's *Modern Science and the Illusions of Professor Bergson*, p. XI).

Atheistic evolutionism cannot explain the harmony and adaptation in the universe. "A set of blind forces

operating upon dead atoms cannot supply an adequate explanation of the undoubted facts of order and design." Science in holding that force and energy cause all things virtually rules God out of the universe and so far as He is regarded as having anything to do with human affairs to-day He might as well not be. According to the Encyclopedia Britannica no system is theistic which denies Kant's postulates of God, Freedom and Immortality. Under the current pseudo evolutionism both the soul as an entity and its immortality are denied directly and the existence of God left in doubt.

According to the new evolutionism "man is found to be a brother not only to the brute, but to the clod and crystal. . . . Life itself, is believed to be a mere phenomenon of matter. . . . Indeed matter itself has disappeared and the mechanist finds nothing but force, a world of electrical points which by their infinite permutations and combinations produce that transitory illusion which we call life" (Wiggin, *The New Decalogue of Science*). In fact, says Wiggin, God, heaven, immortality are "practically eliminated from modern scientific thinking and critical philosophy."[17]

B. Agnostic Evolutionism.

A second form of untheistic evolutionism is the agnostic, held by Huxley and Herbert Spencer, which neither affirms nor denies the existence of God. It has often been described and refuted. Spencer held that back of

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[17] Dr. Irwin Edman, Columbia University, is quoted as teaching that "man is a mere accident," that "immortality is a sheer illusion" and that "there is practically no evidence for the existence of God." Nietzsche, who averred that God is "dead," offered only the barren conception of a superman. Others, like Bertrand Russell and George Santayana, give us well-nigh as dismal a picture of Man's place in the universe. John Burroughs writes: "It seems to me that there is no other adequate solution of the total problem of life and nature, than what is called pantheism, which identifies matter and mind, finite and infinite. . . . Shall we endow the Eternal with personality? Into what absurdities this leads us" (**Accepting the Universe**).

the phenomena of nature is "an infinite and eternal energy from which all things proceed," but such energy is unknown and unknowable. According to Spencer matter and energy are eternal, but in the early stages exist in simple homogeneity. How this primitive "incoherent homogeneity" becomes "coherent homogeneity" was never explained by Spencer, nor indeed by any evolutionist. The best solution that Spencer offered was that in its primal state matter is in unstable equilibrium and tends to enter into combination with something else. But this is pure assumption.

III

THEISTIC EVOLUTIONISM.

We now take up a phase of the subject of peculiar difficulty, namely the widely current conception of theistic evolution. Untheistic evolutionists and theistic creationists come forward with comparatively clear statements of their views, but it is difficult to ascertain what theistic evolutionists really teach on fundamental issues. We get nothing practically beyond the vague statement that God creates by evolution, is back of all events in a general way and in a few instances possibly creates directly. As remarked before, evolution is the thing itself, evolutionism the doctrine.

A. CAUSATION.

On the fundamental question of causation some theistic evolutionists hold that all events are directly traceable to the will of God. According to Ex-President Eliot, "there are no secondary causes in either the natural or the spiritual world." This in addition to making God the author of sin denies free will to man. Others shrink from such a bold naturalism and hold that God created the physical universe and endowed it with self-running

forces. But this is the old deism, now universally discarded.

Some writers as J. W. Conley in *"Evolution and Man"* try to steer clear of difficulty by denying both spontaneous generation and special creation. He writes: "Why not say that the vital energy resident in God entered this material universe as soon as conditions would permit? This is neither spontaneous generation nor special creation, but theistic evolution." Certainly such energy "entered the universe as soon as conditions would permit." But the point is, did they enter, as evolutionists hold, by means of resident forces, or by extrinsic power, that is from God? If the latter, then it is not theistic evolution, but theistic creation. In short any view that conceives of God as creating on any occasion, is no longer evolution in the contemporaneous sense; and any attempt to call it at once evolution and theistic is a contradiction in terms.[18]

There are physical secondary causes; but the question assumes an ethical aspect. Under the Abbott-Eliot view God becomes the direct author of all the evils of life. "If all phenomena except those which man produces are caused by direct acts of the divine will, then we may well believe that God is a mixed character, with impulses of benevolence, but also with freaks of cruelty; to-day, a Father, to-morrow a demon. He causes the mother bird to feed her young, but He causes her also to tear in pieces the young of neighboring nests. He causes the viper to bite and kill the innocent laborer in the fields. He causes the germs of diphtheria to grow in the throat of the babe,

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[18] Many instances of what may be called second causes are cited by Tait and Stewart, as "the velocity of the bullet which issues from the rifle depends upon the transformation of the energy of the powder; this in turn depends upon the explosion of the percussion cap; this again upon the fall of the trigger; and lastly this upon the finger of the man who fires the rifle" (**The Unseen Universe**, p. 184).

and looks down unmoved upon the agony which He produces" (Johnson, *op. cit.* p. 52).

B. Miracles.

It is difficult to ascertain to what extent theistic evolutionists, whether scientists or clergymen, believe in miracles. Since they uniformly hold that God works by natural law and intrinsic forces, they are embarrassed to determine whether God ever departs from such agencies. If he were not supposed to vary his method, it would follow that the universe is a fatalistically closed system; if He were supposed at any time to intervene, such a course would be tantamount to miracle or special creation. As a consequence, the average theistic evolutionists take refuge behind the vague statement that God does occasionally intervene in great crises, but once they undertake to specify such crises they are on the open sea of doubt and confusion of thought and as a matter of fact have no safe anchorage anywhere.

They are in a peculiar dilemma. If they accept the dictum of science that miracles are impossible, they contravene Scripture; and if they allow the possibility of miracles, even in one case, they contravene science.

C. The Immanence and the Transcendence of God.

As often stated, a fundamental question is that of the immanence and the transcendence of God. Pantheism emphasizes the immanence, theism the transcendence, but Christian theism holds both in proper balance. Current theistic evolutionism emphasizes the immanence at the expense of the transcendence and allows the natural to swallow up the supernatural. Some teach that God is immanent in man as in nature, but this would destroy all individuality and render man a mere force or demigod. President King, seeing the danger writes: "Unless we mean entirely to deny the reality of personality and char-

acter in man, we are bound to admit that there must be some difference between God's immanence in nature and his immanence in man" (*Reconstruction in Theology*, p. 104). But King is not at all explicit in defining his own position.

In fact the doctrine of immanence is often pushed so far that the personality of man and even of God is obliterated. No student of science and philosophy has the temerity to deny established facts, but the facts of science and the philosophy and theology of the facts are two different, though related things. Progress, change, development and evolution in the old sense of development from the acorn into the oak, or the caterpillar into the butterfly can easily be constructed into a false Christianity.[19]

D. The Doctrine of Immanence Pushed too Far.

All Christian theology has taught the doctrine of mediate as well as immediate creation. But Lyman Abbott declares that "there are not occasional and exceptional theophanies, but all nature and all life is one great theophany; that there are not occasional interventions in the order of life which bear witness to the presence of God, but that life itself is one great theophany....that He transcends all phenomena, and yet is the creating, controlling, directing force in all phenomena" (*The Theology of an Evolutionist*). If there are no exceptional theophanies, all is on a dead level of natural law and man himself is little higher than nature. In fact, if God be the controlling force in everything, He is virtually the author of sin, man under this view being without free will. Under Abbott's view, vipers and noxious weeds,

[19] R. Otto, in **"The Idea of the Holy"** treats the question of the natural and the supernatural in a helpful manner. His main contention is that the fundamental thing in every religion is the sense of the supernatural and that there is a Supernatural Being who is something more than humanity idealized.

which under the old view, are due to mediate causes, are theophanies of God.

In short, "God is immanent, but is not limited by Nature; He is transcendent, but is not separated from all or any natural processes. He works by means, but He is not the slave of the means by which He works. . . . Miracles, on this view, are not unrelated or arbitrary occurrences; they are extraordinary events in which the physical is specially reinforced or controlled by the spiritual; and so far from spelling *Monster,* as Emerson once put it, they simply bear witness to some otherwise unknown or unrecognized aspect of the Divine character" (Griffith-Jones, *The Ascent through Christ,* p. 35).

E. Theistic Evolutionists in a Dilemma.

Viewing natural, physical law, as absolutely unchangeable (unless they accept miracles) they are driven to a mechanical theory of nature. But on all sides are various kinds of living beings, whose structure and behavior imply purpose and design and cannot be brought under natural law. Accepting the dictum of invariability neither theistic evolutionists nor scientists can account for life. If they see in the phenomena of life a Designer, acting freely, they abandon the mechanistic principle. The logical course would be to recognize the God of Scripture; and a number of broad-minded scientists to-day would seem to accept this view as a rational solution. But this brings up the question of the relation of science, not to religion (a colorless term), but to the Christian religion. An English author, Professor L. J. Henderson, seeing the need of some kind of accord with theism, suggests that in place of the term 'design' we substitute the term 'preparation,' all inanimate nature in its physico-chemical constitution preparing the way for life. The idea is that the lifeless in some way precedes life.

Granted. But here, again, as says Hoernle, "science is brought up to date, but God left out."

Dr. D. S. Clark of Philadelphia writes: "The theistic evolutionist congratulates himself that he occupies a more stragetic position than the materialistic. And this is true from the standpoint of religion and philosophy. But it is not true from the scientific standpoint. All the scientific objections to evolution, and there are many, bear against the theistic type as forcibly as against the materialistic. All the difficulties from paleontology, sterility of hybrids, Mendelism, and a score of scientific fields, are applicable to theistic evolution as well as to any other form of the theory" (*The Princeton Theological Review,* April 1925).

F. Cosmic Evolution.

Another group of writers prefer to designate themselves as cosmic evolutionists, who differ only in minor respects from theistic evolutionists, and contend that whatever the origin of the physical universe, whether by creation or the eternity of force and energy, all now takes place by law imbedded in the cosmos. Under this view the supernatural is excluded, and a miracle, as a break in the continuity, is conceived of as impossible.

Let it be understood at once that neither theistic nor cosmic evolution is necessarily Christian evolution or Christian theism; in some cases it is in fact a view which an infidel or atheist could consistently hold. In other words a man may believe that there is a God, but deny the Genesis creation narrative, the deity and resurrection of Christ and all the distinctive Biblical doctrines. How many scientists and ministers who call themselves evolutionists accept these pivotal points?

If the term evolution were employed in the old and legitimate sense of development, the phrase theistic evolution would be admissable, but in the contemporaneous

sense it is a contradiction in terms and indefensible. Much more is the phrase Christian evolution a contradiction, for reasons already stated. Christ's advent was a miracle (Luke I:35). If this be accepted as a fact it is not theistic evolution, or evolution in any sense (an unbroken series) but a miraculous intervention in human history. The new theology and theistic evolutionism, however, regard the New Testament account as textually unsupported or corrupt and without a basis of fact on the ground that the supernatural is impossible. Christ, according to theistic evolutionism as frequently held, was under natural law absolutely and so could not perform miracles or rise from the grave. At every point, therefore, the theory of theistic evolution is found to be not only un-Biblical but irrational and illogical.

G. Theistic Evolution and Christian Creationism.

As seen above, the term evolution is used legitimately to denote (1) change, progress, improvement; (2) growth, unfolding, development, and illegitimately (3) to denote continuity, uniformity, an absolute creative synthesis in nature, a change from the homogeneous to the heterogeneous by means of intrinsic forces. The latter view either excludes God entirely or retains the word God, but makes Him a mere figure-head in the affairs of the universe. Theistic evolutionists offer no clear statement of how much is due to God, how much to evolution. Since they rarely mention God except in the most general way and rarely speak of his creating the universe, life or man, it must be inferred that the greater half of the process is 'evolution.' Lyman Abbott for example accepts both evolution and the resurrection of Christ. "The new theologgy," he says," has no difficulty in believing that the control of the physical by the spiritual, and therefore of the universe by its God, is sometimes manifested by unexpected or unusual acts of power and wis-

dom for spiritual ends. These are miracles, as for example the resurrection of Christ."

Here the new theology and theistic evolutionism contradict themselves, for evolutionism in the current sense is the theory that all takes place according to natural law by means of resident, not transcendent forces. If the resurrection of Christ was a miracle it was not evolution; if it was an evolution it was not a miracle. Any one who grants that the resurrection was a miracle rejects the basic principle of evolution. The theistic evolutionist may not reply that the resurrection was an evolution under God's direction, for the resurrection was the entrance of a new principle. The same law holds in the case of the origin of force, motion, life and man. They were due not to an evolution, even under God's control, but to special creative acts. Otherwise there would be no creation at all in the entire universe, but merely 'evolution' from nothing.

Drummond, too, claimed to be a theistic evolutionist, and yet he granted at least two specifically creative acts, viz., the origination of human life and the origination of spiritual life. "In either case," says Drummond, "the first step in peopling these worlds with living forms is virtually a miracle." That these acts of God can be at once a creation and an evolution, is, as Bergson would say, an irrational concept. Here again evolutionism breaks down. Drummond cannot be a Christian creationist and a theistic evolutionist at one and the same time.[20]

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[20] John Fiske, a cosmic theist, is sometimes referred to as a theistic evolutionist, but he was not a Christian, or even a theistic creationist, that is, he did not accept miracles or a supernatural order above the natural. As to miracles he writes: "To the scientific thinker it [a miricle] is a priori so improbable that no amount of historic testimony suffices to make him entertain the hypothesis for an instant. "Fiske's rejection of the resurrection of Christ settles his relation to the Christian religion."

H. Man Allowed to be a Special Creation.

Theistic evolutionists are no more fortunate in regard to man's origin than on other points. The older theistic evolutionists held that man at least was as to his soul and spirit a special creation. Some inferred logically that if this be true, then special creation is in principle established. The question would then arise, why not hold that the higher animals, as the vertebrates, are also a special creation?

Present-day theistic evolutionists, however, as a class or group, incline to the view that man comes under the same rigid law as plants and animals and is in fact a descendant of the ape. Such is substantially the view of nine-tenths of the scientists, as any one can see from contemporaneous literature. The only part that under this view God had in man's superior endowment was in so directing events that by a fortunate saltation or leap, the primitive ape awoke one fine morning with the affirmation: "I am no longer an ape, but a man." The other apes and apelings fell in with the proposition. The queer thing, however, is that in the thousands of years of recorded history the "miracle" has not been duplicated. Of course such a conception violates all the canons of sound psychology and logic, but it is swallowed with avidity by all up-to-date evolutionists. In short, no one can be a consistent theistic evolutionist without admitting enough of special creation to undermine and refute the fundamental postulates and assumptions of current evolutionism.

IV.

THEISTIC CREATIONISM.

In theistic evolutionism the greater half, indeed, four-fifths, is regarded as evolution; in theistic creationism the greater half, or rather four-fifths, is viewed as creation. The problems which theistic evolutionism

fails to solve are solved in theistic creationism. Very much, which under the former theory, is represented as evolution is in reality divine creation. The details of the works of the successive creative days or periods and their correlation with other cosmogonies and with science having been discussed in chapters II and IV, we here confine ourselves to a consideration of the respective claims of creationism and current evolutionism.

A. The Christian World-View in General.

(a) only two world-views.

It is now generally agreed that fundamentally there are only two world-views, phrased either from the philosophical or the theological view-point. Writing as a specialist in philosophy on *"Modern Theism"* Professor G. T. Ladd says that all philosophies are reducible to two: the theistic or the mechanistic; the former personal, the latter impersonal, and carried to its logical extreme, atheistic. "Science cannot offer the slightest satisfactory rational explanation of a material universe, or of a history of humanity, that has no personal ground, whose Being reflective thought explores, and in whom religious faith believes, worships and obeys as God. In fact no mechanical theory wholly explains the reality of the most insignificant thing" (*Methodist Quar. Review,* July 1919).

Quite recently Professor N. K. Smith upon the occasion of his inauguration into the chair of philosophy in Edinburgh in a remarkable paper on *"The Present Situation in Philosophy"* substantiates the position here taken on a number of subjects. He writes: "Ultimately there are only two philosophies, the idealistic and the naturalistic; it is between these two forms that we are called upon to decide" (*The Phil. Review,* 1920). In other words, personalism, God, a human rational self, free will, immortality; or impersonalism, force, determinism with-

out true freedom, a self, or a personal hereafter. "The distinction between the physical and the psychical we are bound in one form or another to accept as fundamental" (Smith).

Whatever view, therefore one may entertain of creation and evolution he must choose between a God in reality as well as in name, and a 'finite' God, no God at all.

(B) MEANING OF THE CREATION.

Although writing from an Hegelian view-point A. Seth Pringle-Pattison has some thoughts worthy of reproduction here: "The whole material world is but God's medium for the shaping of souls. The whole meaning of creation lies in the origination of conscious spirits to whom God can reveal Himself and from whom He can obtain an appropriate response. Creation in this sense is demanded by the nature of God (?) and it implies a real agency on the part of the being created. But the Spirit of God moving the hearts of men is the guiding and formative agency in the process. . . . The immanent is always the infinitely transcendent, and it is the presence of the Infinite in our lives that alone explains the essential nature of man" (*Methodist Review*, 1920). Under the evolutionistic scheme man has no such origin or destiny.[21]

(C) CONSERVATIVE SCIENCE CONFIRMS THEISTIC CREATIONISM.

Over against theistic evolutionism the more conservative scientists either directly accept some form of theistic creationism or allow concessions which lead logically

[21] The world says Haering has its end in the love of God which directs itself to the realization of the Kingdom of God. "The world is the means to this end, and nothing but the means, but also as the means really necessary. The direct means are the finite spirits, who, ceasing to be conditioned by nature, are destined to become members of the Kingdom; the indirect, the whole world, as the means for the advancement of this. The world is as little a necessary effluence from God or development of God (emanation or evolution) as it is the plaything of His whim."

to the same thing. In other words, the greater half is creationism, whereas in theistic evolutionism the greater half, if not nine-tenths is evolution. Argyll adduces proof that the Genesis account finds strong support scientifically. "Let us, provisionally, accept the belief expressed by Darwin that organic life was first called into existence in the form of four or five germs—each being the progenitor of one of the great leading types of the animal creation—one for the vertebrata, one for the mollusca, one for the crustacea, one for the radiata and one for the insecta. Let us assume, farther, on the same footing, that from each of these germs, all the modifications belonging to each class have been developed by what we call the process of ordinary generation. Then it follows that, as all the modifications have undoubtedly taken definite direction from variable beginnings to the latest results and complexities of structure, the original germ must have been so constituted to contain these complexities potentially within themselves."

Argyll's view is not mere imagination. It has often been shown that it is the great peculiarity of organic growth or development that it always follows a determinate course to an equally *determinate end*. Each separate organ begins to appear before it can be actually used. It is always built up gradually for the discharge of functions which are yet in the future.[22] Argyll continues: "If therefore we accept the hypothesis that all vertebrate animals, whether living or extinct, have been the offspring by ordinary generation of one single germ originally created, then the original germ must have contained within itself certain minute properties of development along definite lines of growth, the issues of which have

[22] In fact Spencer pointed all this out in his Biology. He writes: "Crystals grow, but when they are formed there is an end of the operation. They have no future. But the growth of a living organism is always preparative for the future discharge of some functional activity" (**Principles of Biology**, I, p. 73).

been predetermined from the first. . . .This is a theory of creation, but also of development, but of the development of a purpose." Conklin in allowing that everything is produced "after its kind" substantiates this view.

(D) SPECIAL CREATION.

Great confusion of thought prevails on the subject of special creation; it is constantly denied that there is any such thing. The phrase is antithetic to general creation. But those who deny special creation are not as clear as to what their real position is. What can they mean by general creation? Do thy mean immediate creation, as the creation specified in Gen. I; and all the rest mediate creations? That were an intelligible view which has something in its favor. But they fail to come out openly and content themselves usually with the denial of special creation. Their position then would be equivalent to saying that with the exception of Gen. I:1, there was no creation at all, but at most only an evolution by natural law and resident forces, which under the current definition of evolution excludes God at every stage subsequent to the original and in fact sole creation.

But even so, if God be allowed to have created the universe, that at least was a special creation and so the principle of special creation is established by the admission of the so-called theistic evolutionist. If there was one such creative act, may there not have been several more, as in the creation of life, animals and man? No theory of evolution undertakes to account for the origin of things, but starts with ether, atoms, fire mist, or energy. These things did not exist of themselves from eternity. Whence did they come? The theistic evolutionist grants that they came from God by a special act, or special acts. But this is creation and not evolution and so the controlling and underlying principle is crea-

tion and not evolution. Evolution got no start without creation.

In fact the issue at bottom between the Scripture doctrine and theistic evolution is the issue between the doctrine of the transformation of the homogeneous into the heterogeneous and special creation. The Biblical view is that species arose by divine act, the scientific, by self-transformation, as if, for example, a mouse could transform itself into a cat. Genesis is explicit in teaching several creations, as of force, plants, animals and man. There are new and advanced stages, change, development, progress, in short evolutions in the old sense, as of the oak from the acorn.

And yet in spite of all this, such a writer as Conn, a theistic evolutionist, says: "There is such a belief as theistic evolution; and this belief would look at all nature as the continued manifestation of God (*Evolution of To-Day*, p. 17). Any Brahmanist, Buddhist, Unitarian or theosophist, could say the same thing. Such sentences throw no light on the subject. We are told constantly that evolution is God expressing Himself in nature. If this means that God created matter, force, life, spirit, it is unobjectionable; if it means that originally God endowed nature with such qualities and never afterwards intervenes in cosmic or human history, it is at once the old pantheism and deism.

(E) CONFUSED AND CONTRADICTORY VIEWS OF CREATION AND EVOLUTION.

On all sides one encounters false views of the relation of creation and evolution. Thus Professor Snoddy, writing in the *Christian Century*, June 1923, seeks to save evolution by shading down the word creation and shading up the word evolution, so that creation is evolution and evolution creation. Divine creation (if the word has any distinctive meaning) denotes an act of God by which

something not previously existing is called into being. To affirm that this cannot take place without development or evolution is the rankest emanationism and pantheism. "It (evolution) is no longer opposed to creation, but to creations isolated and unrelated." What writer of rank ever held that the creative periods of Genesis I are unrelated? But they are related as stages or epochs in an ascending scale. The parts of an automobile, chassis, engine, tires, etc., are related, but they are not "evolution" of some one part.

We read: "Every present is a new beginning for an equally unique and novel future." Not so; the beginnings to-day are merely relative, not absolute. In the creative days there are absolute beginnings. The above writer, not being a professional theologian, confounds creation with the doctrine of providence and preservation. He writes: "At present both terms [creation and evolution] are undergoing a radical change [that is, in circles which accept pseudo evolutionism] . . . . In the first place creation is no longer used to indicate the origin of the first of a species only, but for every member. [This goes to the extreme of holding that every individual trilobite or worm is a direct creation, which may mean either that God creates, or that "resident forces" create, the former of which views ignores the distinction between first and second causes, the latter of which has never been proved], not to explain the origin of the universe at one stroke as an event in time ["He spake and it was done. He commanded and it stood fast," that is, the physical universe arose in time by a creative act] but rather to indicate the unique, novel, originative activity of God at every moment of experience" [if God's experience be meant we have the crudest finitism of God, as if God did not see everything in an eternal now, without the human successive stages of thought; if man's experience be meant the irrelevancy is evident].

Professor Snoddy, like many others, seeking to tone down objections to false evolutionism, seems in one breath to make God do everything, and in the next to designate it all as evolution. Creation and evolution mix as fire and water.[23]

B. Serious Difficulties in the Current Evolutionism.

1. Other objections to the current evolutionism not mentioned already are briefly recorded here.

(a) false evolutionary optimism.

Writing on the Dilemma of Civilization, Dr. W. R. Inge says: "The unexamined postulate of evolutionary optimism is that all social evils have a tendency to eliminate themselves. There is no sanction in history for this assumption. Increasing complexity of organization is not necessarily progress, if by progress is meant the passage from a less desirable state of life to a more desirable. . . . For better or for worse, man is the tool-using animal, and as such he has become the lord of all creation. When he is lord also of himself he will deserve his self-chosen title of *homo sapiens*. . . . Sociologists and others are convinced that civilized man, in enslaving the forces of nature, has become less a man than he was before. He has succeeded in partially superseding himself; many of his natural activities are left unused, and in consequence

[23] Dr. G. H. Howison, University of California, points out that the law of continuity fails in the break between the inorganic and the organic, between physiological and logical genesis, between the phenomenal and the noumenal, and especially the "bottomless chasm between the Unknowable and the Explanatory" **(The Limits of Evolution, pp. 24-30)**. Dr. Howard A. Johnson writes: "Science fails to take account of the fact that spirit, intelligence, will, are back of the forces of nature. Romanes asked himself, Is there anywhere in the range of experience the presence of an intelligent power that is an adequate explanation of the movement of physical forces? He finally reached the profound conclusion that just as a man in lifting a book or other object puts forth will and intelligence, so it is of the nature of spirit to control physical force" **(Scientific Christian Thinking)**.

he is neither healthy nor happy" (*Edinburgh Review*, July, 1921).

(B) DARWINISM THE GREAT PAGAN RETROGRESSION.

Instead of progress Darwinism or evolutionism has become, says B. Kidd, the great Pagan Retrogression, the return to savagery; and "the consequences have been felt through every fibre of civilization....Within half a century the origin of species has become the Bible doctrine of the Omnipotence of force." Said Nietzsche: "I impeach that greatest blasphemy in all time—the doctrine of evolution, which has enchained us abominably."

(C) MATERIALISM ON THE INCREASE.

It is a gratification that the more philosophical scientists, like Professor W. H. Sheldon, of Yale recognize the present trend of science. Sheldon, writing on the Soul and Matter says: "Materialism far from being dead is stronger now than ever. Science is taken as the source and the type of all knowledge; biology becomes a branch of physics, and psychology a branch of biology; so it is at least in North America, where we have practically no vitalists or animists. And this after all is straight materialism" (*Phil. Rev.*, March, 1922). Biology, says Sheldon, is a mechanistic and therefore materialistic affair. Consciousness becomes no longer even a diaphanous remnant of the soul, but is defined in terms of the occasion at which it arises in the body. All this, and especially pragmatism pave the way "for the new psychology of behavior which is frankly materialistic in its procedure."

(D) "LEVELING UP" AND "LEVELING DOWN."

Science uniformly regards the lowest form of existence as an explanation of the highest; man is explained from a hypothetical ape-man, the ape-man from an ape and so on back to the amoeba. So psychology is carried

back to biology, biology to chemistry, chemistry to physics. In fact, however, we can know nothing of the simplest forms of life, except as expressed by the very being, man, whom science disowns. The proper course, therefore, is to invert the scientific method and hold that the ultimate interpretation even of the lowest existence cannot be reached except on principles which explain the highest. In short we must "level up" and not "level down." "We must not only deny that matter can explain spirit, but we must say that even matter itself cannot be fully understood except as an element in a spiritual world."

(E) THE WORLD SHOT THROUGH AND THROUGH WITH THE SUPERNATURAL.

A writer in the Anglican Theological Review, Rev. L. W. Snell, says: "Entirely aside from specific miraculous events and works of power, the Scriptures view the world as clay in the hands of the divine Potter, subject to God's immediate will, fundamentally subservient to His ends. In particular the New Testament sees all temporal existence as centering in Christ, 'in whom all things consist,' and ultimately included in the fulfillment of His purpose, 'when all things shall have been subjected unto Him.' The New Testament point of view is not that we live in a world where incursions of the supernatural may occur, but in a world shot through and through with the supernatural as in the incarnation, miracles of Christ and resurrection, regeneration, etc., primarily subject to the supernatural purposes of spirit, however recalcitrant and out of harmony with those purposes it may temporarily be. Heb. 2: 8."[24]

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[24] Dr. H. A. Johnson, referring to the Biblical account of the three men thrown into a red-hot furnace without suffering harm, writes: "Today the chemist can freeze mercury inside a red-hot crucible, which is quite as miraculous as to keep men cool in a red-hot furnace. It is fully

(F) GOD, FREEDOM AND IMMORTALITY.

It is to the lasting credit of Kant that he taught emphatically that the highest interests of man center on the three ideas of God, Freedom and Immortality, or to state it from another view-point; the idea of the soul as a self-determining subject, the world as a system which amid all change, maintains rational order and finally of God, who is at once the source and the end of the world. E. Caird has shown in his work on Kant's philosophy that to treat God and the soul in the manner of science is equivalent to a denial of their existence. According to science the soul is merely an attribute of the body, a series of occurrences, a secretion of the brain.

God in the scientific scheme is simply another name for the sum total of cosmic activity. This position has been shown to be untenable. Then as to man; if, as conscious subject he is more than one of the objects which he knows, then the principle of physical causality which underlies all the achievements of modern science, seems to be deprived of its universal validity. The self-conscious person, the soul, is in fact indispensable if science would get a start and evaluate facts. In short, of the two realities, the natural world and the spiritual, the latter is necessary in order to reach the former. According to the ordinary functional, behavioristic psychology, which knows of no soul, science cannot reach facts at all. To get facts it must predicate a self, person, soul. See Excursus.

(G) THE CHAOS IN EVOLUTION.

The American public does not seem to know that, while our writers are shouting themselves hoarse over the success of evolutionism, British and Scotch writers of the

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in keeping with scientific appreciation of possibilities to believe that the laws of God obtained in one case exactly as they do in the other" (op. cit.).

highest rank are shaking their heads. Within the last two or three years eminent scientists have knocked the bottom out of Darwinism. Look at the addresses at the 1921 meeting of the British Association for the Advancement of Science, published by Murray under the title "*The Advancement of Science, 1921.*" At that meeting nothing was so significant as the repudiation of Darwinism. Turn to the address of Dr. D. H. Scott, the eminent botanist. He writes substantially that Darwin's theory of the origin of species by means of natural selection is still acknowledged in weeding out the unfit and that some geneticists allow it a considerable role. But there is a strong tendency in these days to admit natural selection only as "merely negative force," and as such it has even been dismissed as a "truism." But Darwin's great book was certainly not written to enunciate a truism. He regarded natural selection as "the most important, but not the exclusive, means of modification." It was the continual selection of the more fit, on which he relied, and not the mere obvious elimination of the unfit. In our present total ignorance of variation and doubt as to other means of change, we can form no clear idea of the material on which selection has had to work and "we must let the question rest."

"For the moment, at all events, the Darwinian period is past; we can no longer enjoy the comfortable assurance, which once satisfied so many of us, that the main problem has been solved—all is again in the melting-pot. But now, in fact a new generation has grown up that knows not Darwin." It is Dr. Scott, who says this.

But now comes "the unkindest cut of all." Is even evolution, then, not a scientifically ascertained fact? No, says Dr. Scott, *it is not.* We must hold it, he says, 'as an act of faith'—because there is no alternative.' Again, he says, 'I have thought it fair to lay stress on the present

state of uncertainty in all that concerns the origin of species.'

Professor W. E. Ritter, University of California, writes in *Science,* April 14, 1922, that one who thinks carefully "can hardly fail to see signs, that the whole battleground of evolution will have to be fought over again, this time not so much between scientists and theologians, as between scientists themselves." Other proof to the same effect is available.[25]

(H) ABSOLUTELY NO MISSING LINKS.

The proof that there are no missing links is overwhelming. Recently an English minister, Rev. W. E. Orchard, published a book on "*The Finality of Christ,*" in which occurs a sermon on "Evolution and the Fall." There we read: "If man evolved from the animal we ought to be able to find not only some creature who can be called 'the missing link,' but many missing links bridging what after all is a great gulf. The remains bearing on this issue which have been found are very few, and their significance is hotly disputed by scientists themselves—both their age, and whether they are human or animal, or mere abnormalities. When there are instanced whole races of men such as the cave-dwellers, or neolithic man, who are represented as very low in the scale of progress, because they know nothing of the use of fire or metal, we come across two disturbing facts, one that they could draw very creditably, with accuracy and life-like

[25] Dr. Etheridge, Fossilologist of the British Museum says: "Nine-tenths of the talk of evolutionists is sheer nonsense not founded on observation and wholly unsupported by facts. This museum is full of proofs of the utter falsity of their views." B. Kidd writes: "The knowledge has come home to me that Darwinism, the peculiar science of the West, is a compound of **astonishing presumption and incomparable ignorance.**" "Science has doubts as to the origin of species" (Bateson). Dr. Fleischmann, Erlangen, says: "The Darwinian theory in the realm of nature, has not a single fact to support it. It is not the result of scientific research, but purely the product of the imagination."

vigor, and secondly that they had quite strong beliefs in the existence of higher beings and in a life beyond the grave; in short, that they compare favorably with many modern men in artistic expression and religious sensibility."

Skulls Prove Nothing.

The idea that the size and contour of the skull determine brain capacity has been overworked by apeologists. At the meeting of the American Philosophical Society in Philadelphia, April, 1924, there was a debate "whether there exists any inherent superiority of the white races over the black. The majority of the speakers contended that there was no real evidence of white superiority." One point in the discussion was whether the skull has much to do with brain power. Dr. F. Boas read an elaborate paper and argued that "no scientific method has been found of measuring the fundamental capacity of different races, as distinct from the mental and moral development due to custom, history, economic and social environment." Dr. A. Goldenweiser also insisted that skull contour proves next to nothing as to intelligence. If the superiority of the white races cannot be proved from the character of the skull, the arrangement of the fragments of skulls in the New York Museum must of necessity be highly artificial and prove nothing as to the relation of apes and men. How absurd to attempt to determine the brain power of pieces of skulls alleged to date from 25,000 to 300,000 years ago! (See *N. Y. Times*, April 26, 1924).

Recently a skull alleged to link man and ape was discovered at Taungo, Africa, by Professor Raymond Dart. It is claimed to be older than the Java Man and is christened *Australopithecus Africanus*. One may be pardoned for expressing doubt as to its antiquity and character, seeing that without a definite standard, one scientist dif-

fers from another 375,000 years in the date of the Piltdown Man. Professor G. E. Smith, London, is quoted as saying that the skull represents a phase of Simian development which has not "yet acquired distinctively human characteristics." But, if according to the latest science, every living thing is propagated "after its kind," how can even a gorilla or chimpanzee, the highest of living apes, ever acquire *distinctively human characteristics?* See *New York Times,* February 5, 1925.

The African "find" brings up again the question of the region of man's origin, which Osborn finds in Asia, others in Europe, America, Africa, or even Thibet. Dr. R. L. Ditmars announced in the New York *"Evening Telegram,"* August 28, 1921, that an expedition headed by Roy Andrews and fully equipped was to penetrate the interior of Thibet in search of the missing link. There are plenty of low-brow apes, but Ditmars was certain that there are aristocratic or high-brow apes in Thibet and he proposed to bring some of them back and introduce them to New York society. Up to date the "high-brows" have not arrived.

In their desperation evolutionists are now turning to darkest Africa to help them out. Professor H. J. Spinden, a Harvard anthropologist, in a communication to the New York *Times,* February 15, 1925, argues that the Rhodesian man, the remains of anthropoid apes at Fayum, on the Nile and now, the Dart discovery lend support to the African hypothesis, but he presents no further proof. In short he merely rehashes the McGregor-Osborn stuff (pages 140-156 above) anent the chimpanzee, Neanderthals and Cro-Magnons, accompanied by fine "pictures" designed to hoodwink an innocent public into the belief that the bold fabrications are scientific facts. His communication is significant in letting "the cat out of the bag." Evolutionists, we are told, are not looking for the missing link, for the reason that they must on precon-

ceived grounds hold that man descended from the lower orders, or lose their case, as we showed above, pages 135-140. We read: "Your thoroughgoing evolutionist looks at life as one continuous and expanding existence, leading from lowly organisms of one cell up to the highest animals. For him the beginning of life is lost in *a mist of the infinite.*" No admission here that God created life. As Spinden is careful not to say Infinite, a person, but "infinite," a mere impersonal force or energy, his viewpoint is clearly unblushing atheism. Need we further proof that pseudo evolutionism is irreconcilable with Christian tenets?

(I) EVOLUTIONISM A FAILURE.

Evolutionism fails as a universal principle because it stops half way before the goal is reached. Man will not advance any higher, says Conklin; in fact, in native endowment he has not advanced, as said also Buckle, since the time of the ancient Greeks; he is in fact degenerating, as not a few scholars hold.[26]

If heterogeneous or absolute evolution is the panacea for the ills of the race, what is it doing to usher in the Golden Age? Is not crime increasing on all sides? What is the religion of evolution doing to elevate the race? What churches, asylums, ethical or religious clubs has it established? It is now sixty-five years since Darwin's great work appeared and we may reasonably expect some uplifting results, but it is to be feared that evolutionism has made many more infidels than Christians. We have read of young fellows in college claiming that there is no God but force, no religion but the Epicurean. The crim-

[26] "The man of today reads labels, not contents. He has acquired some word-knowledge of both science and religion, but real comprehension of neither. The philosophy department has gone to the moving-picture show" (M. Dawson, **Nineteenth Century Evolution and After,**" p. 85).

inal lawyer Clarence Darrow voices the outcome of evolutionism.[27]

(J) NO WORLD-AIM IN EVOLUTIONISM.

What is the purpose of the world? Whither are we tending, according to evolutionism? Is there a world aim at all? Here the insufficiency of current science is apparent. In a word it knows nothing of an end; it knows no end or destiny of things; there is no room in its program for an ulterior aim, for man's elevation or future welfare either here or hereafter. It is true that writers on evolution employ the term "purpose," but usually only when speaking of the eye, ear, or hand; but at best, evolution allows only an "immanent" design without a Designer whether immanent or transcendent. "In the current evolutionism nothing is dominant save the compulsion of fate or the capriciousness of accident. Even in the case of man evolution offers nothing; he exists, but why and to what end cannot be told; he remains here for a time and then is reabsorbed in the infinite abyss, or as say the French, 'The Farce is ended' (*La farce est jouée*). Since there is neither soul nor spirit, immortality is folly and faith in it mere egoism" (H. Bavinck).

So far as science goes there is no purpose in the world of nature. An end awaits the earth and the whole planetary system. As they originally arose from vapor and gases, so they will ultimately return thither, possibly to be succeeded by other series of "evolution," but all without any discoverable purpose. An inexplicable fact is that the Osborns, Conklins, Coulters, Pattens, Milli-

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[27] According to a press dispatch of September 30, 1924, he is represented as saying: "We know nothing in the beginning and do not know what will happen in the end. Our work is all laid out for us. We live on bunk. Our birth, our religion, our marriage are decided by fate. It is a matter of fate whether a man dies an honored character or dies on the gallows." No responsibility; man a machine, says evolutionism.

kans and others who profess to formulate Christianity in terms of science have nowhere, so far as the writer has been able to discover, even suggested a possible outcome of the evolutionary processes. Some indeed hold that the present flux and flow will continue forever, but physics pronounces this view untenable. An astronomer informs us that "the velocity in the earth's rotation is diminished by at least one second every 600,000 years." This looks trifling, but in billions of years it of necessity would bring about a change in the rotation of day and night and render life on earth impossible. Physicists are not agreed whether the sun or the earth will die first; if the sun, then the earth will congeal; if the earth, then it will return to the sun, whence it came. But whether by freezing or burning, its end is certain, and as science cannot tell us why it started, so it cannot tell us why it ends. How unsatisfactory such a view compared with the Biblical!

(K) THE RELIGION OF EVOLUTION.

The feeling of dependence of all things on a higher power of some sort is a necessary prerequisite of every religion (Schleiermacher). In every religion worthy of the name, nature and the universe are creatures. Where in evolution do we find this prerequisite? Neither Coulter, Patten, Osborn, Conklin, nor any other scientist has ever attempted to supply this desideratum, nor explained what it can possibly be. Is it to be found in an atom, electron, germplasm, amoeba, or perchance in the assumed man-ape? We read: "Religion combines the worship of the true, the beautiful and the good. The person who loves these is religious, it matters not what his professed creed may be." (Conklin, *Direction*, etc., p. 168). Any polytheist, New Thoughter or Theosophist could subscribe to that. We are told that the various stages of religion represent attitudes of mind on such fundamental

problems as "the origin and government of the universe, the constitution and order of nature, the origin and character of man, the mysteries of human life, etc.," (p. 176). Despite this, Conklin nowhere explains how his view on these subjects can be reconciled with the fundamentals of Christianity as voiced, say, in the Federal Council. The whole trend of his book is in the direction of a rejection of the specifically Christian beliefs and principles.

(L) DIFFERENCE BETWEEN THE NATURAL AND THE SUPERNATURAL.

Great confusion of thought prevails as to the relation between the natural and the supernatural. Nature or the natural "is the finite universe, with its constitution, order and laws (which it is supposed can be detected and stated),—the finite, limited, dependent in a chain of effects and causes. Hence, the so-called uniformity of nature" (H. B. Smith, *Apologetics*). There are some who regard the supernatural as merely the spiritual. Thus Dr. W. A. Brown writes: "The sharp division between nature and the supernatural science no longer recognizes. It knows but one world, both natural and supernatural, or, as we express it in the more familiar terms, both material and spiritual."

It is in a sense true, as said a German philosopher, that with God nature and the supernatural are one, but for finite man nature is the finite universe and supernature, or God, the ground and source of the universe. "By the supernatural, we mean, being that is above the sequence of *all* nature whether physical or spiritual; substance that is not caused, and that is not determined whether physically and necessarily as in the case of physical nature or rationally and freely as in the case of spiritual nature; in a word, unique reality the essence of whose uniqueness is that the reality is uncaused, self-

subsistent and autonomous" (W. B. Greene, *Biblical and Theological Studies*, p. 141).[28]

(M) THE NATURAL AND THE SUPERNATURAL, ACCORDING TO SCIENCE.

Professor Conklin has much to say about false views of the supernatural, but he fails to add that such views frequently originate with men of science. A spurious coin implies a genuine. So here the question is, Is there a supernatural Being, a supernatural government of the world, a supernatural Christ and atonement? No, says Conklin. He writes: "Everything that has been thoroughly investigated has been found to be natural, and this justifies the conclusion that nature is universal [obviously, to the exclusion of a supernature]" (p. 195). This means that the incarnation, miracles and resurrection of Christ were natural events, which view, as Darwin would say, "cuts the throat" of Christianity as a divinely originated religion.

Professor Conklin nowhere indicates that he believes in a supernatural in any sense. We read: "Supernaturalism is a great stumbling-block to those who find naturalism everywhere else [the fact that the dullard regards the differential calculus a stumbling-block does not disprove the fact of such a calculus]; it makes religion not only unnatural but unreal to many" (p. 198). Religion, however, is not natural law in the spiritual world, but spiritual law in the natural world, the entrance of a higher than merely natural forces, "a life in God, a life lived in recognition of God, in communion with God, and under control of the indwelling Spirit of God" (A. H.

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[28] Evolutionists who admit the existence of God in the Christian sense seem to forget that the supernatural is implied therein. "If God is a reality, the whole universe rests on a supernatural basis. A supernatural presence pervades it; a supernatural power sustains it; a supernatural will operates in its forces; a supernatural wisdom appoints its ends" (Orr, op. cit., p. 92).

Strong). It is not the supernatural but a false view of it which makes religion "unreal."

"More and more," says Conklin, "all thoughtful people are seeing that nature, rather than the supernatural, is the greatest of all miracles." This Irish bull matches that of the man who said: "I am an atheist, God knows it." Nature, "the greatest of miracles." Yes, but back of nature is supernature, the God who created nature. Can we hold that God ordained the laws of nature and ever afterward withdrew from all control? Whence the laws of matter and energy if not from a Supernatural Being?

(N) EVOLUTION VERSUS CREATION.

Professor Conklin denies creation in the Biblical sense. "Geology has found that the earth was formed according to natural laws; evolution teaches that the origin and transformation of living things are the results of natural causes" (p. 203). According to Scripture the earth, that is to say the material, and "living things" had their origin in a divine act, through supernatural, and not "natural" causes. Conklin in boldly affirming that the "origin of living things" is due to "natural causes" out-Darwins Darwin, who allowed that God created at least four or five forms. This again confirms our contention that contemporaneous evolutionism rules out God at every stage.[29]

C. THREE CREATED REALMS.

As seen above, chapter I, the universe known to man, covers three realms: matter-force, life and spirit. The realm of matter-force is practically the inorganic world

[29] "Creation is the primary **kenosis** (self-emptying or self-limitation) of which the incarnation is the central and most significant fact—central because Jesus Christ made real that for which the whole process came into being" (J. Y. Simpson, Professor of Natural Science, New College, Edinburgh).

of atoms, ions, electrons, ether, etc. This realm has no latent quality or element to translate itself into the second, the world of life. The latter is a distinct entity.

What life is and how it originated science does not know. The third sphere is that of spirit, of which God is the head and man a creation in God's image. Mere life, as that of the plant or animal, is not mind or personality. These three realms are distinct: force never becoming life, nor life, self-conscious personality; they are divine creations, as the following review is designed to show.[30]

D. World Riddles.

In the ultimate analysis, the universe without the guidance of revelation is the profoundest of all mysteries. This was admitted by Ernst Haeckel, the German scientist, who popularized Darwinism in Germany and gave it an atheistic turn. In his book, *The Riddle of the Universe,* he teaches that "the whole universe is a machine, the various parts of which are continually being disintegrated and continually renewing themselves by an automatic principle of evolution through endless cycles of time." He denies that man has a higher nature of any kind; the mind of man is merely an emanation from his bodily structure. Man has therefore, no free will, he is an automaton, and all his acts are predetermined by his

[30] Professor J. A. Thomson, in "Introduction to Science," divides as follows: (1) There is the physical order of nature, the inorganic world, where mechanism reigns; (2) There is the vital order of nature, the world of organisms, where mechanism proves insufficient; (3) There is the psychical order of nature, the world of mind, where mechanism is irrevelant. Thus, there are three fundamental sciences. Physics, Biology and Psychology, each with characteristic questions and formulae. Dr. T. E. Hulme, in "Speculations, etc.", improving on Spencer's classification, has three realms or discontinuities as follows: (1) force or energy, giving the inorganic world of mathematics and physics; (2) life, giving the organic world, biology, history, etc.; (3) personality, yielding, psychology, ethics, religion. He illustrates by three concentric circles or zones, the outer zone is the world of physics, the inner that of religion, the intermediate that of life.

ancestry and his environment. As over against Haeckel's world riddle, writers have directed attention to some riddles overlooked by Haeckel.

A German scientist, Du Bois Reymond, in criticism of Haeckel, declared that there were at least seven world riddles, which the mechanical worldview and current evolutionism have failed to solve, but which are solved in the Christian system. These are: the existence of matter and force, the origin of motion, the appearance of design in nature, the beginning of life, the appearance of self-consciousness as intelligent thought, the origin of speech, and the freedom of the will. Reymond holds that scientists have no right to assume that these chasms have been bridged and then draw all kinds of unwarranted inferences.

(A) THE RIDDLE OF MATTER AND FORCE.

We examine here briefly the first of these seven riddles, namely, the existence of matter and force, which all materialists from Democritus to Laplace, Haeckel, Buechner and the rest have been compelled to assume. Whence came this matter (which after all, according to the latest science, is a construction of mind)? It does not suffice to affirm that it is eternal, for that proposition may be challenged and so no progress is made. It may indeed be alleged that since matter is now in motion and no time is known when it was not, it must be eternal, but this proves nothing. Whence this motion? If it be alleged that the cause of this motion is electricity, or gravitation or some other assumed immaterial entity, the question returns, whence such entity, material or immaterial? We still need to inquire What is the primal cause of it all? Helmholtz accepted the early dynamic theory of matter and of vortices. When asked, Who created the vortices, he replied "God."

The average scientist to-day, though not caring to

commit himself, would, if pressed too closely, probably claim that matter and force are eternal, for he has the wit to see that if he allowed a God who created matter, he would be logically forced to allow that God might have created plants, animals, and man. If, however, the scientist, for one reason or another, should concede that God created something, a whole nestful of questions would arise as to what was created absolutely (for all such phrases as "creation by evolution" and "evolution is creation," etc., are unmeaning and at bottom contradictory) and what "evolved."

It has often been pointed out that scientists assume something in the very beginning of their investigations, and then quietly assume that such assumptions have been proved, a procedure palpably unscientific and illogical, if science deals with facts. We are not here referring to the use of hypotheses in investigation, which are of course allowable and indeed necessary, but to the assumption, *e. g.*, of matter, force, ether, etc., as if their existence were proved. Scientists do not start with the beginning of things, where all the difficulty lies. The first verse of Genesis declares: "In the beginning God created the heavens and the earth." This is at least a clear and fundamental statement; whether it be true or not does not concern us here. It implies a creative Intelligence. Science without attempt at proof assumes the eternity of matter and force (impersonal).[31]

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[31] Is force an entity distinct from matter? If so, then we must assume that force is of an immaterial nature. Materialistic science does not admit that the immaterial can produce effects upon the material" (Reuterdahl, **op.** cit. pp. 22, 26). Reuterdahl shows that force, energy, ether, ions, electrons, etc. imply an Absolute Mind or God back of them. No Perpetual Motion. "No physical machine is operated by self-generated power. Stevinus, in his work **Hypomnemata Mathematica** (1605) proved by means of a closed chain and the inclined plane over which it was suspended that perpetual motion is impossible. The cosmic machine is no exception to this scientific proof" (Reuterdahl, p. 81).

(B) THE RIDDLE OF LIFE.

The second problem that naturalism cannot solve is the origin of life. Science is baffled here more than in the case of matter and force. The current evolutionism affirms that in some manner not yet explained, the lifeless produced life, the inorganic the organic, the non-mental the mental, the non-spiritual the spiritual. Scientists of a certain type, with incomparable presumption and in defiance of all canons of thought, hoodwink the public into the illusion, that their initial assumption rests on a solid basis of fact. Until science has proved that biogenesis is false, it commits an unpardonable sin, not only against sound logic, but against science itself, which is supposed to be facts systematized, and not suppositions paraded as facts.

The attitude, however, of the more sober-minded scientists may be indicated by a few citations. Thus P. G. Mitchell writes in the *Encyclopedia Britannica:* "No biological generalization rests on a wider series of observations, or has been subjected to a more critical scrutiny, than that every living organism has come into existence from a living portion or portions of a preëxisting organism." We reproduce the following deliverance of Lord Kelvin: "Was there anything so absurd as to believe that a number of atoms falling together of their own accord, could make a sprig of moss, a microbe, or a living animal.... It is utterly absurd." Nevertheless in spite of the absurdity thousands of professors of science are strutting through the land or within the confines of their pent-up Uticas are proclaiming that all comes from force and that any one who shares Lord Kelvin's views is a fit subject for an insane asylum. Kelvin proceeds: "Here scientific thought is compelled to accept the idea of creative power. Forty years ago I asked Leibig....if he believed that the grass and flowers, which we saw around

us, grew by mere mechanical force. He answered, 'No more than I could believe that a book of botany describing them could grow by mere chemical force.' "

A year later, Kelvin in addressing medical students in London said: "Let them not imagine that any hocus-pocus of electricity or viscous fluids would make a living cell....Nothing approaching to a cell of living creature has ever yet been made....No artificial process whatever could make living matter out of dead." In fact so far as science has thrown any light on the inner nature of matter, force, life, mind, spirit, we know little more than seventy-five years ago.

1. *Recent Experiments in Originating Life.*

For proof of this statement we cite from an article in the *New York Times,* April 16, 1924, written by P. W. Wilson and reproducing an interview with Ex-President C. W. Eliot, of Harvard, on the occasion of his reaching the age of ninety years. "I asked him, as a distinguished student of physical science, whether he could mention any new addition during his lifetime to our knowledge of the real nature of matter. By the question I intended to imply an inquiry not into the way matter behaves, *but what it actually is.* Did we know anything now that was not known ninety years ago? 'Nothing' was the laconic and indeed whimsical answer, 'so far as my reading goes.' "[32]

[32] Eliot's strong statement possibly needs some qualification. We are permitted to quote from a private letter of Prof. Hale Charch, Ph.D., of the Chemical Department, Ohio State University, a paragraph throwing light on the subject. "Up to the discovery of radio-activity about twenty-five years ago, the atom was considered the ultimate and indivisible part of matter, and since there were about 80 odd elements known, scientists supposed that there was a corresponding number of atomic species out of which the universe was constructed. . . . The following views, however, are far beyond the controversial state with scientific men, and are **facts** known with the same degree of certainty that we know our whole body of scientific knowledge. Instead of some eighty different ultimate species, we now have **two**, namely the **electron** and the **proton**. The former is the ultimate charge of negative electricity and the latter of positive electricity. The former has a mass about one-eighteen hundred and fortieth

The interview contains another remarkable statement. "It is a fixed axiom in Dr. Eliot's analysis of his own character and career that he has never had an original idea in his head. As a concession to the incredulous caller, he will admit that sometimes, on the spur of the moment, he has said something which may sound fresh and inspiring. But in the main, his philosophy is—according to his own account—wholly derived from others and especially from books. This in his unassuming estimate of the position." In the light of the unassuming modesty of this distinguished scholar and scientist, let the "original thinkers" of all shades who boast that recent discoveries necessitate a reconstruction of theology from the ground up, put all this into their pipes and smoke it.

Have any discoveries been made since Kelvin's day which in any way disprove his clear-sighted view of the situation? We are, of course, from time to time regaled with newspaper reports that Professor so and so of such and such a university, has at last succeeded in producing life from the non-living. Just as we write, *The Scientific Monthly* (Lancaster, Pa.), has an article on this subject, in which along with other hypotheses, it is claimed that "the first living thing was an isolated cell in the primeval ocean. Somehow or other [yes, somehow, the usual scientific camouflage] it grew a tail that enabled it to rise to the surface [there you have it] and then the sunlight gave it power to make its own food out of the air and water." We are told that this guess work is in accordance with our latest knowledge.

(1840th) of that of the latter. Their magnitude and many other physical properties are known with a high degree of precision. Out of these two units, all matter is constructed. The 80 [others say 90 or 125] elements are **spacial** configurations of protons and electrons, differing from one another in the **number** and **arrangement** of the positive and negative charges." Such is the current electrical theory of matter. Whether it favors creationism or evolutionism remains to be seen.

The editor of the *Monthly* writes: "This is *far* from knowing what did happen in those early days, but it is a great advance to be able even to speculate as to how it might have happened, since not many years ago it seemed that it could not happen at all." Where has that editor lived that he seems never to have heard of the Greek Ionic philosophers and that "speculation" on this subject has been going on thousands of years and always ends in speculation and guesswork. Sporadic cases of getting the truly living from the non-living are reported from time to time, but they share the fate of Henry Ford's Cow's Milk.

2. *Henry Ford's Manufactured Cow's Milk.*

Henry Ford, according to the *New York Tribune*, said: "It is a simple matter to take the grains the cow eats and make them into milk superior to the natural article. The cow is the crudest machine in the world.... Our laboratories have already demonstrated that cow's milk can be done away with." The trouble, however, with the artificial milk is that it is injurious to babies, just as artificial honey is injurious to bees. Ford's idle boast is on a par with that of a veterinarian in New Jersey, who affirmed that he "could make a better cow than God ever made." Up to date the manufactured cow has not been placed on the market.[33]

Professor Haldane writes: "The physical and chemical conception of the world breaks down absolutely and hopelessly in connection with the phenomena of life, however useful it actually is in connection with inorganic phenomena. It is therefore, nothing but a working hy-

[33] "Science can assemble every element known to exist in the grain of wheat—proteins, nucleo-proteins, phosphotides, carbo-hydrates, fats, phosphorus, iodine, chlorine, and fluorine, salts of iodine, iron, potassium, calcium, manganese, sodium, silicon including the extraordinary substances known as vitamines, but science can't make the combination sprout in the ground" (A. W. McCann, **God or Gorilla**, p. 99).

pothesis of limited useful application" (*Mechanism, Life, and Personality*). We are sometimes told that if only time be allowed, the non-living could become the living. But this expedient, known in logic as the "fallacy of the imperceptible," mistakes quantity for quality. The difference between the inorganic and the organic is not a question of time or quantity, but of quality or essence. In the language of Professor Carl Hauptmann: "The most primitive life, from which alone the living world on this earth can have sprung, can only be assumed to be a species, the members of which varied in manifold ways and propagated themselves. Here we have to do already with an eminently complex interaction of elementary processes. . . . The origin of the simplest living substance is mechanically quite unknown and uncomprehended." Stronger still is the language of Oscar Hertwig: "It may be broadly said, that in spite of all progress of science, the chasm between the living and lifeless nature, instead of gradually closing up, has, on the contrary, become deeper and deeper."

A favorite position of the new evolutionists is that life has a physical basis and that in some way unorganized matter produces life. But the simplest form of life known to us is the cell, and this is really organized matter. Of this Professor Wilson writes: "The study of the cell has on the whole seemed to widen rather than to narrow the enormous gap that separates even the lowest forms of life from the inorganic world" (*The Cell, etc.*).

3. *Not merely Mind, but even Life Minimized by Science.*

The trend of science is away from both mind and life. It is small wonder that Professor R. M. Wheeler of Harvard deplores that of the several schools of biologists "the simplicists leave out, not only mind, but even life as a distinctive character, and reduce whatever goes on in a living being—be it a single cell or a multicellular

organism—to physico-chemical processes. The humanizers treat all living things as if they were miniature men and women. Each of these types of extremists is wedded to a theory....If the theory does not fit, so much the worse for the facts." (Hoernle, p. 92). Then, too, there is interminable war between the vitalists, represented by Driesch, Bergson, and the mechanists represented by Loeb. Both schools have access to the "evidence," but it is not so much the "evidence" of which scientists boast which demands such and such a conclusion, but the supposed analogy and philosophic grounds.

Even though the chemical compounds which occur in living bodies have been artificially produced in the laboratory, no bit of living substance (protoplasm) and still less a living cell has actually been manufactured in the laboratory. In short "the realm of life exhibits a character unique, distinctive and qualitatively new." The unity and self-identity of an organism are not dependent on the human observer's point of view or interest, but are given as the recognizable pattern of the organism's concept, of a different order from physical or chemical concepts, and not reducible to them by analysis. Life is *sui generis* qualitatively unique" (Hoernle, p. 109).

4. *Vitalism the Deadly Enemy of Mechanism.*

The ordinary vitalism of Driesch, Reinke, and Bergson is in deadly conflict with mechanism as represented by Haeckel, Loeb, and a number of American University professors, as already pointed out, and though far superior to mechanism it does not predicate an intelligence "foreseeing enough to be of the order of consciousness" (Hoernle). Something can be said of Bergson's *êlan vital,* or vital impulse. The corner-stone of his system is the idea of freedom and is a notable vindication of the independence and self-determination of human personality. This explains the assaults on him by Hugh Elliott and

Ray Lankester, rank determinists and materialists. "Life, in man is free, spontaneous, creative and incalculable; determined neither by natural law nor logical sequence. It can break through all causation and assert its own right" (Alexander, *Christianity and Ethics*). Vitalism prepares the way for personalism, the theory of an Absolute Person at the head of the universe and man in his image.[34]

5. *Inner Nature of Life. Unknown.*

Science is unable to analyze the inner nature of life; it is a secret; the scientist who undertakes to analyze it, kills it. The vitalists, who wage war on the mechanists, are in the same dilemma, for they in turn can give no account of the origin of life, and in fact indirectly presuppose something akin to the Scriptural view of creation. Beween the Scylla of mechanism and the Charybdis of vitalism the whole evolutionistic scheme suffers shipwreck and can be rescued only by the Biblical cosmogony.

Immature college professors and half-educated ministers may still shout 'great is the goddess Evolution,' but none the less the goddess is man-made. Genesis I is again coming to its own. "Creation alone, which harmonizes with the being of God and his creatures, interprets the origin of things. In an ascending series, covering six periods, by the word of his power the Almighty brings all things to appear from the unseen world of thought. He spake and it was done; he commanded and it stood fast; Heaven and earth, firmament and clouds, mountains and streams, sun, moon and stars, creeping things and four-footed animals. He formed them all by the breath of His Spirit" (H. Bavinck). In Genesis I we

[34] Recently Henderson and Hoernle have favored a 'teleological' vitalism. The idea is that "organisms are individuals, i. e., stable, durable systems maintaining their equilibrium (or self-identity) in the flux of physico-chemical processes" (Hoernle, op. cit. p. 122). If, however, this view implies consciousness it does not differ from psychological vitalism; if it denies consciousness it is only the ordinary vitalism.

have science, poetry, philosophy, and religion of divine origin.

Man in the scientific scheme is merely an animal, having neither soul, liberty, God-derived personality, nor responsibilty; he does not live, *he is being lived.* He is psychic, but so is the plant. All the finer psychical phenomena in man have their analogy in plants and animals, we are told. Reason, will, conscience occur in animals. The difference is in degree, not in kind. Even as the bile separates itself from the liver, so thought separates itself from the brain. This, though the rankest materialism, is taught by learned professors and accepted by the masses as true science, and the New Gospel.[35]

6. *Sensation, Pleasure, Pain not Explained by Evolutionists.*

Evolutionists rarely attempt to explain the origin of sensation, pleasure, and pain. Du Bois Reymond in his two great works directed attention to the fact that the simplest sense-perception and the commonest sensations of pleasure and pain, cannot be regarded as arising from matter and energy. They are characteristics altogether inexplicable by matter, molecules, or electrons. "Even if

[35] The Duke of Argyll writes: "We know as certainly as we know anything in the physical sciences, that organic life must have had a definite beginning in time upon this globe. If so, then that beginning cannot possibly have been by way of common parentage or ordinary generation. Some other process must have been employed, however little we are able to conceive what it was. . . All our desperate attempts, therefore, to get rid of the idea of creation as distinct from mere procreation are self-condemned as futile." After referring to Darwin's early view of a Creator breathing life into a few forms, Argyll continues: "His instinct that life must have had a beginning, as subservive of the fundamental assumption of his theory they [his worshipers] pass over in silence. They never dwell on it. They realize that without it, or without some substitute for it, the whole structure of what they call organic evolution is without a basis—that it represents a chain hanging in mid-air, having no point of attachment in the heavens or on earth. It is as certain as anything in human thought that, when organic life was first introduced into the world, something was done—some process was employed, differing from that by which these processes do now simply reproduce and repeat themselves." (Op. cit. p. 113).

we could follow the play of the nervous processes with which sensation, consciousness, pain, or pleasure are bound up, into their most intricate and delicate details, if we could make the brain transparent, and enlarge its cells to the size of houses, so that, we could count and observe all its processes, and even follow the dance of molecules within it, we should never see pain, pleasure, thought, or anything more than bodies and their movements. A thought cannot be weighed in pounds like matter; it is something wholly different, which can be known only through inner experience."[36]

(C) THE RIDDLE OF PERSONALITY AND SELF-CONSCIOUSNESS.

Another riddle that science has not solved is the origin of human personality and self-consciousness. The inquiry of necessity takes such a wide range that only a few outstanding facts can be mentioned here. First of all, it is often stated that mental action in animals and man is a function of the brain. But the change from matter to mind is, as the case now stands, unthinkable. The eminent physicist, DuBois-Reymond writes: "Motion, whether in the brain or elsewhere, can only produce motion, or transform itself into potential energy. Potential energy can only produce motion, maintain statical equilibrium, push, or pull. The sum-total of energy remains constantly the same. More or less than is determined by this law cannot happen in the material uni-

[36] The evolutionistic idea of life is based upon a law, not strictly biological at all, the law of the conservation and continuity of energy. Evolutionists are driven to hold that in some unknown manner energy became life. To be sure they profess not to be called upon to say how life originated, but this is merely a clever camouflage to hide their predicament. If the law of continuity and conservation be without exception, then the origin of life obviously is due to immaterial force or energy. Otherwise Evolutionism is not a world-wide, but only a limited principle. If evolutionists allow that God created life they are not true to the doctrine of evolution, and if they deny that he created it, it must have been eternal or the result of force or energy.

verse; the material cause expends itself entirely in mechanical operations. Thus the intellectual occurrences which accompany the material occurrences in the brain are without an adequate cause as contemplated by our understanding. They stand outside the law of causality, and therefore are as incomprehensible as a *mobile perpetum* would be." Professor Fiske is equally explicit.[37]

1. *Dividing Line between Animal and Man.*

Self-Consciousness is the dividing line between human and animal life and constitutes a gap or break as impassable as the passage from matter to mind. Self-observation on consciousness reveals three facts of prime significance: a multitude of ideas or concepts which come and go, the ever-changing unity of the same and the union or unification, of the successive states of consciousness by the static or unchangeable Ego, self, or I. We distinguish between the essence or inner quality of a thing and the states of the same. The essence of the oak-tree abides; it is in the acorn, but the form changes. So of the ego, self, the soul, we distinguish between the metaphysical self, which is the same from childhood to old age, and the empirical self which changes constantly. The contention of materialists, pragmatists and behavioristic psychologists that the soul is not an abiding entity, but merely a series of stages of consciousness is false psychologically, metaphysically and legally. Years ago Robert Ingersoll, defending a man who had committed a crime twenty years previously, argued that the fellow had changed so much that he was really not the same person

[37] He writes: "That it [self-consciousness] cannot possibly be the product of any cunning arrangement of material particles is demonstrated beyond peradventure by what we know of the correlation of physical forces. The Platonic view of the soul, as a spiritual substance, an effluence from the Godhead, which under certain circumstances becomes incarnated in perishable forms of matter, is doubtless the view most consonant with the present state of knowledge" (**Man's Destiny**, p. 42).

and so could not be held. The judge ruled that in law and in safe psychology, the ego, self, person is fundamentally (though not experientally) ever the same.

Since the animal has the power of sensation, perception and recollection (not true memory), the conclusion is often drawn that it has reason, but nothing could be wider from the mark. Wuttke in his *Christian Ethics* remarks that while reason has the animal, man alone of earthly beings has reason, that is, conscious rationality. A dog coming into my library sees the various objects as sense-perceptions, very much as a man, but it cannot unify such sensations and hold them together in consciousness; in short cannot *begrip* (*begreifen, concipio,*) them, or form concepts. It sees merely isolated units and can never get beyond them, whereas a small child, remembering and combining such units, that is holding them together in consciousness, is able to enumerate, compare, collate the data and draw inferences, in short, can reason, at least in a simple way—a thing which the most highly trained dog, or even the trained horse, "Clever Hans" of the German psychologist, is unable to do. Clever Hans could, as the result of innumerable sensory impressions, perform wonderful tricks, but he could never initiate a new movement or originate an idea. If by any chance the series of acts was broken or interfered with, all was confusion and the poor creature was hopelessly "rattled" and "broken up." It was always necessary to start the mechanical process anew.

Throughout all the centuries of recorded history, it has never been known that an animal, whether dog, horse, ape, chimpanzee or gorilla transcended its natural state and became a self-conscious, reasoning person. In its inability to account for the riddle of personality (that is, "riddle" for evolution, not for divine creation), the current evolutionism, conceived as a wholly intrinsic process

and a transition from the homogeneous to the heterogeneous, breaks down utterly and absolutely.[38]

2. *The Substantiality of the Self.*

The self or soul is an entity. "The stuff which is mind cannot be the same identical stuff as the neurones, muscles, and other bodily tissues. It is another sort of substance. . . . Being stuff, it would seem to be permanent; there is as much ground for believing it to be eternal as for believing physical atoms to be eternal." Hereby mind-stuff becomes a soul-substance and an imperishable entity; it is always individuated. The individual soul or person, being as substantial as any electron, is as certain to endure. It may be dissociated, says Sheldon, from this or that living organism, but it can no more disappear than can an ultimate physical atom. T. Thilly also writes: "We meet with dualisms everywhere; we cannot reduce the two spheres of reality, mind and matter to a unity, or derive them from a unity; they remain an undeniable dualistic fact."

In current science, "mind, if not denied outright, is politely segregated and quietly ignored, rather than the acknowledgement of its presence and effectiveness in the world should be allowed to disturb the trim tidiness of the mechanistic theory. Yet, to call mind an 'epiphenomenon' is but to hide the bankruptcy of the theory beneath the descent obscurity of a learned tongue" (Hoernlê, *Matter, Life, Mind and God,* p. 87). The consistent

[38] Psychologists like Wundt and Thorndike point out the stupidity as well as the intelligence of animals. Thorndike writes: "Most books (i. e. on animal psychology) do not give us a **psychology** but rather a **euology** of animals. They have all been about animal intelligence but never about animal stupidity. . . Dogs get lost hundreds of times and no one ever notices it or sends an account of it to a scientific magazine. But let one find his way from Brooklyn to Yonkers and the fact immediately becomes a circulating anecdote" **(Animal Intelligence,** p. 24). Wundt, speaking of similar facts says: "The interpretation of the psychologists . . puts them from first to last in a totally wrong light. You will find proof of this on nearly every page of works on animal psychology **(Human and Animal Psychology).**

pseudo-evolutionist shies off from the use of such concepts as vitalism, vital principle, élan vital, entelechy, for they suggest purpose, mind teleology, Creator. This applies especially to biological research. "It is an undeniable fact, which any one can verify by a cursory survey of contemporary biological literature, that evidence drawn from man, for all that he is classed as a living organism and an animal, plays a comparatively small part in shaping biological theory. If human behavior....were included by biologists in their field, or if biologists studied, *e. g.*, their own conduct as scientists with the same loving care with which they study the 'tropisms' of an amoeba, we can hardly doubt that the concepts of biology would be very different from what they are....Biology treats the human species as just a small corner of the field of living beings, and tends to concentrate largely on the non-human field" (p. 89).

3. *Der Kampf um die Seele.*

If it be true that "there is nothing great in the world but man" and if personality is 'the culminating fact of the universe,' then contemporaneous thought has viewed altogether too lightly the question of man's real nature. Writers on religious subjects do not seem to realize that in their acceptance of the current false evolutionism they have no safe footing for a doctrine of the soul, of a spiritual life or of future personal immortality. It is not freedom and personality alone that are at stake, but the very existence of a religious world. If man is a resultant of mere force or mere animal life, if the world is a closed system in which everything is fatalistically determined, if there be no soul, no freedom, no spontaneity, as pseudo-evolutionism teaches, we are thrown back on the baldest materialism.[39]

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[39] Professor J. H. Robinson in **"The Mind in the Making"** has some fine observations on the superiority of man over the animals: "All ani-

The current behavioristic, pragmatic and double-aspect psychology represented in one form or another by Professors Warren, Strong, Montague, Sellars and others, reduces the soul to neural activity, or in the language of Warren, the neural system is "the ground-work of mental organization" (*Human Psychology*, p. 393). This is a return to Buechner's "mind a secretion of the brain" and the "mind-stuff" theory" exposed by James thirty-five years ago in a thirty-seven page discussion in *"Principles of Psychology."* James laid bare the starting-point of the evolutionistic psychology: "In a general theory of evolution the inorganic comes first, then the lowest forms of animal and vegetable life, then forms of life that possess mentality, and finally those like ourselves that possess it in a high degree....If evolution is to work smoothly, consciousness in some shape must have been present at the very origin of things....Each atom of the nebula they [evolutionists] suppose, must have had an aboriginal atom of consciousness linked with it....Some such doctrine of *atomistic hylozoism* as this is an indispensable part of a thorough-going philosophy of evolution" (*op. cit.* I, pp. 146, 149). But, says James, the argument of the spiritualists has never been answered. "The mind-stuff theory, in short, is unintelligible. Atoms

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mals gain a certain wisdom with age and experience, but the experience of one ape does not profit another. Learning among animals below man is **individual, not co-operative and cumulative.** One dog does not learn from another, nor one ape from another" (p. 70). Why man is superior to the ape Robinson explains by saying "The human mind has been built up through hundreds of thousands of years by gradual accretions and laborious accumulations" (p. 78). But it was shown by Buckle years ago and by scores of writers recently that man has not advanced in native ability in all past time. "Gradual accretions" count for naught. The child must begin where the parents began. "We are all descended from the lower animals," says Robinson. Then why has not the ape become a man? An ape remains an ape and cannot by "accretions" become a man. We read: "The idea that man has a soul or double which survives the death of the body is very ancient indeed and is accepted by most savages" (p. 82). It would appear that Robinson does not accept the doctrine of the soul as an ego, or self. His "mind" is a mere development of animal life.

of feeling cannot compose higher feelings, any more than atoms of matter can compose physical things" (p. 161). Two considerations, says James, weigh heavily in favor of the substantialistic view: human responsibility and immortality. "The principle of individuality within us must be substantial, for psychic phenomena are activities, and there can be no activity without a conscious agent. This substantial agent cannot be the brain, but must be something immaterial; for its activity, thought, is both immaterial, and takes cognizance of immaterial things in general" (p. 343). He adds: "The mere stream of consciousness cannot possibly be as responsible as a soul, which is at the judgment day all that it ever was." Again, "for immortality the simplicity and substantiality of the soul seem to offer a solid guarantee. A stream of thought for aught that we see to be contained in its essence may come to a full stop at any moment; but a simple substance is incorruptible and will, by its inertia, persist in being so long as the Creator does not by a direct miracle snuff it out" (I, 348).

The whole issue of evolution therefore is at bottom a battle about the soul, *Ein Kampf um die Seele*, as W. Schmidt calls it. We have shown that evolution cannot get Life out of matter, or soul out of mere life, in short that it discards the soul as an entity. The fact, however, is that "other things exist, so to speak; a person is always himself" (Wallace, *Logic of Hegel*). There is more proof that the self exists than that the outer world exists, for we reach the outer world through the self. Instead of saying, as does science, that the world makes man it would be more correct to say that man makes the world.

The outcome of the battle about the soul is vital for Christianity in the old sense and indeed for Christianity in any sense. If there be no soul, no self, but, at most only successive stages of consciousness, no hereafter except as mere force centers, we may as well turn our churches in-

to dance halls, eat, drink, be merry and to-morrow die like cattle. The shortsightedness of the preacher who pins his faith to the new Gospel of Evolutionism beggars description.

4. *High Authorities Recognize Existence of the Soul.*

Does a sound psychology recognize the existence of the soul? Yes. "With Descartes, Berkeley, Leibnitz, and Kant, Fichte, and Hegel, Lotze and Renouvier, Bergson and Eucken, Howison, Ward and Royce, and a great company of philosophers, the writer finds that consciousness is not mere idea or series of ideas, but that it is the unique subject of the ideas" (Mary Calkins, *The Persistent Problems of Philosophy,* p. 407). Royce points out that just as there is an Absolute Personality at the head of the universe, so there are finite personalities, among them man. Despite a voluminous literature claiming that the soul is mere animal life, the latest safe treatises on the soul reject the whole pragmatic, behavioristic scheme as so much rubbish. Thus Professor John Laird, of Belfast University, writes: "I wish to maintain that there is a soul....The soul is a substance, but is it a permanent or indivisible substance, and in what sense is it superior to matter?....The soul is a psychical, not a physical substance....There is a unity of the self from the cradle to the tomb." (*Problems of the Self,* pp. 337, 360, 361).[40]

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[40] Laird adds: "If the soul is not the body it may survive the body. . . And if the soul may survive the body it may possibly be immortal in the strictest sense, i. e., it may be indestructible. . . The soul exists on its own account. . . The death of the body does not imply the destruction of the soul. . . An immortality which is not personal is nothing. We are not immortal unless our personality can survive the shock of death" (pp. 67-69). Driesch calls the **teleological** factor in action a 'psychoid' which, however, is not a **psyche.** It is not self-conscious, and so is not a person. J. A. Leighton stands for a self-psychology in opposition to the structural and behavioristic contentions. "The hypothesis that the self or ego is a real cause is the most natural explanation of the sense of initiative and responsibility, the feeling of self-determination, and of the whole life of

Professor James B. Pratt in a clear-cut discussion in *"Matter and Spirit"* cogently defends the substantialistic theory of the soul: "Mind, therefore, is not to be identified either with any form of matter or with passing states of consciousness. Yet it must have at least a certain degree of persistence and substantiality in order to explain its control of conduct and all that we know as purpose and character" (p. 172). As seen in our Excursus, certain things, being ultimates, are indefinable and like the sun shine in their own light. The soul, or self is one of these, as Pratt, points out. "Our inability to define it is due in part to the fact that the self is primal in our experience and is *sui generis*. The physicists and mathematicians have somewhat similar difficulties in defining their *first things*....By the self I shall mean that which has ideals and purposes, which wills and suffers and strives and knows....That a thing *is* what it *does* has been a commonplace of thought since the days of Aristotle" (pp. 175, 177).

To the same effect others. "From the necessities of the case there can be no proof of the existence of the self, for the self cannot demonstrate its own existence except in a direct awareness of a continued identity and prevailing unity in the midst of the varying experiences in time and space" (Hibben, *Problems*, p. 81). "Does our mental life possess that unity of structure and permanence of character which justifies our calling it a thing? If so, then our mind, just because of this unity, is a soul. Its unity is the soul. And the principle and character of this unity are just what we mean by personal identity" (W. T. Marvin, *Introduction to System. Philos.*, p. 167).

5. *The Animal and the Human Soul.*

As stated above the Hebrew nephesh denotes both

seeking, of choice and purposiveness. It is sheer dogmatism, not open-minded empiricism, to say that the only efficient factors in our world are purely mechanical and physical" (**Man and the Cosmos**, p. 308).

the animal and the human soul expressed respectively by the Latin *anima* (life principle) and *animus* (mind). Up to a certain point Scripture and science agree on this fundamental question. Both recognize the soul or life principle, but they differ on the main issue. Scripture teaches that man has an animal principle, is under one view an animal, having bodily parts and functions; but it teaches that man is vastly more, that the soul of man differs in kind, not merely in degree from that of the animal. Possibly one of the most comprehensive discussions is found in Wundt's *"The Human and the Animal Mind."* Certain facts stand out prominently. *Hidden from view.*

What goes on in the animal life or mind is largely hidden from us. We have no way of knowing except by analogy of our own mental processes, and so we may see too much or too little. We hear much of the cleverness of dogs and elephants, but they certainly are incapable of forming general ideas, rules and laws. A dog can imitate to a certain degree, but never originates anything by a train of reasoning. In the language of Otto: "I can train a young ape or an elephant, can teach it to open wine-bottles and perform tricks. But I can *educate* the child of the savage, can develop in him a mental life equal to that of the average European. . . . It is in the possibility of raising psychical capacity to the level of spirit, that the absolute difference, the impassable gulf between man and animals lies."

The evolutionistic view of the soul is reflected in Professor H. C. Warren's *"Human Psychology,"* who writes: "Mental life comprises the events which occur in the active give-and-take relations between organisms and their environment" (pp. 1, 13). This means that even the lowest animals have reflective thought. But says Otto, "Nowhere in the animal world does the psychical overstep the limits of purely natural existence, of striving

after purely natural ends of a vegitative and animal life, physical pleasure and the maintenance of the species.... An animal species may last for millions of years, but it has no real history. It is and remains the same historyless natural product." Animals have the power of recollection, and strong social instincts, but no strictly mental, moral, spiritual or religious nature.[41]

(D) THE RIDDLE OF DESIGN IN THE UNIVERSE.

Every one sees evidence of order and design in the universe, in the periodicity of the heavenly bodies, the coming and going of the seasons, seed-time and harvest and in the ascent from the inorganic to the organic and thence to man. Scripture supplies the key; science does not, in fact is baffled. No scientist of recent times, neither Osborn, Conklin, Coulter, Millikan, nor any other who denies divine creationism, has even attempted to explain the source and ground of the harmony of nature.

Since the time of the Bridgewater Treatises and under the influence of Spencer, it has become fashionable to allow that there is design in nature, but that it is immanent, not transcendent. (The purpose is obviously to rule out God as transcendent). But even so, how did design get into the cosmos? Surely not through the atoms, electrons, ether or whatever science regards as the uiti-

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[41] The word "soul" does not occur in Warren's ponderous volume, the terms, self, personality, mental life taking its place. "The self, or mind, or personality is not to be regarded as an abstract being, an entity distinct from the phenomena of mental life. Man's self or personality is the sum total of his specific experiences in so far as they represent the results of his organization" (p. 384). If according to Hibben (**The Problems of Phil.** p. 79) the two chief views of the soul are **substantialism**, which regards the soul as "a real substance, a unifying principle, of which the several mental modes and activities are separate manifestations" and **Actualism**, which regards the soul as merely "the states of consciousness, actual happenings, but in no way unified in the sense of being all manifestations of an underlying substance" then Warren is clearly an actualist. Accordingly there is no immortality of the soul. "There is no direct evidence of personal survival in the phenomena of mental life" (p. 422), according to Astualism.

mates, from which things came. In short, unless the scientist accepts divine creationism, as unfolded in Genesis I, that is Christian theism, he identifies God and nature and denies the integrity of each. This is clear from the following.

1. *Evolutionists in a Dilemma on Design.*

The argument from design as implying a Designer is as old as philosophy, and though desperate efforts are made in contemporaneous thought to minimize its value, it may not be overlooked. But where shall we find the designing mind? Only two possibilities are open to us, says Hoernlé; either we must find the designing mind in the living organism itself, or we must refer the whole system of nature to a divine Creator. Those who accept the former alternative must show that every living being, even the amoeba, must not only have a mind, but a mind sufficiently developed to engage in constructive reasoning. No proof of any such power is forthcoming.

2. *Design in the Universe merely a Mechanical Force says Evolutionism.*

According to the latest evolutionism design in nature is mere mechanic force without mind or personality. We read: "Granting that there is teleology in nature, progress in evolution, and purpose in human life, it does not really matter from the standpoint of religion whether the universe and man came into existence by evolution or by creation" (Conklin, *Direction, etc.*, p. 232). Here the words creation and evolution are contrasted; evolution is not creation (in the Biblical sense), nor creation evolution. Creation in the true sense is a calling into being of that which was not, evolution, an unfolding of something present, some latent, intrinsic, continuous force from all eternity to the exclusion of any factor or agent above nature. The difference that Conklin incautiously states is

the difference between theism and untheism (atheism, in fact), Christianity and anti-Christianity, revelation and pseudo-science. How did teleology get into nature and purpose into human life? Surely not by the impersonal force predicated by science.

(E) THE RIDDLE OF FREE WILL.

Is the will free or bound? Is man a self-determining agent, or are his acts the result of circumstances over which he has no control? It is an old question which has become more acute than ever through the contention of science that physical law, intrinsic force, applies to man as well as to nature. According to Biblical psychology man is a self-determining agent, having the liberty of choice. Science, on the other hand, holding that man is only a part of a great world-movement determined by inexorable, natural law, faces the problem of accounting for freedom even while denying it. How stands the case?[42]

1. *Unchangeable Natural Law.*

Everything in the universe takes place according to invariable, inflexible natural law says science. It is regretable that men like Professors Coulter and Millikan, who write in a Christian spirit, do not distinguish sharply between theistic and untheistic views. The former writes: "There is no religious difference between creation by law and creation by direct command, if back of it all the Creator is recognized" (*op. cit.*, p. 101). But how can there be "creation by law," if law be "invariable?" If, as declares Professor Conklin, everything is propaga-

[42] The problem of the will has scientific, psychological, ethical and theological aspects. The scientist asks, how can free will arise from physical necessity? The psychologist asks, are all actions determined by the strongest motives? The moralist inquires, how can man be held accountable if he has not freedom? The theologian is asked to reconcile human freedom with divine sovereignty.

ted "after its kind," how can law produce something of another "kind?" If we are correct in our conjecture that Professors Coulter and Millikan do not accept a supernatural realm, their views are deistic, namely that God since the primeval creation lets things take their course according to natural law and has no interest in the affairs of matter and mind. Under this view, neither God nor man is free. The Christian theist holds that God reserves to Himself the prerogative of conducting cosmic and earthly as well as human history to their goal, not by arbitrary, but by rational means and agencies, even to the extent of superseding ordinary law by special enactments if need arise. Any other view would seem to throw us back on a mechanistic, fatalistic program.

2. *No Freedom of Will in Evolutionism.*

In affirming that the current doctrine of evolution makes no provision for freedom of human actions we are but voicing the view of eminent scientists. This is made clear by Delage and Goldsmith in their classic work *"The Theories of Evolution."* They say: "If the whole controversy (*si toute la controverse*) has become so bitter, it is because at bottom there is the inevitable conclusion on the origin of Man....What is the origin of our life of the soul (*vie psychique*)?....What becomes in fact, if one accepts the new point of view [Evolution] of the idea of Free-Will, the indispensable basis of every ethical system? Where could we find any guidance for human behavior if we gave up the spiritualistic faith (*la conception spiritualiste*), not in the sense of spiritism, but in the philosophic sense of spiritualistic over against materialistic)?....The same applies to social science, to history, to political economy and to the practical questions related to them" (pp. 5-7).

Though Delage and Goldsmith are evolutionists, in the old sense, they throughout the above work allow that

"the idea of evolution even in our own day makes its way (*fraye son chemin*) with great difficulty" and in its extreme current form encounters many objections. Directly in the face of the current germplasm theory, they write: "But for the transmission of acquired characters, evolution would be impossible; either acquired characters can be transmitted hereditarily or there is no evolution." One of the most striking results of evolutionism is the gradual substitution of the determinist point of view that all human acts are caused by circumstances over which we have no control for the belief in free will." Even in Lamarck we find "a negation of free will and an affirmation of the personal irresponsibility of man, a product of his environment....According to evolution there is no fundamental difference between man and the higher animals from the paint of view of intellect, sentiments, emotions, social instincts and moral sense, the last two being identical. However, Wallace is convinced that man, by the superiority of his intelligence and of his moral sentiments....is in a class by himself. This belief leads Wallace to draw purely spiritualistic conclusions." (Delage and Goldsmith).

3. *Natural Law and Human Freedom.*

Current evolutionism breaks down utterly in its view of human freedom. Science, as we have seen, holds that man is but a part of a great world-movement controlled by natural law. There is no room for freedom, spontaneity, self-determination, even the minutest impulses, the profoundest thought, though imagined to be free proceed from iron-clad causes. Man is merely a part of nature and subject to its laws. But in all sound psychology and ethics it has ever been held that man has what is popularly called "free will," or the power of self-determination. Evolutionism adopts the old, fatalistic doctrine of deter-

minism, that is, that everything a man does is determined by antecedent causes over which he has no control.

That such a view has gained a strong foothold in our institutions of learning is seen from a book just appearing from the pen of Professor A. B. Wolfe, of the Ohio State University, whose view-point is, as he boasts, "the assumption of a consistent, mechanistic, deterministic view of nature, man, and his social relations included.... I have been driven to this postulate because it seems to be the only one in accord with relational experience, and the only one which affords a sure basis of understanding of phenomena, both natural and social. Consistent with this deterministic position goes adherence to the behavioristic psychology as the only psychology which gives promise of consistent scientific quality." The issue is therefore well-defined; either free will, self-determinism, personality, or absolute determinism, the mechanistic view of man, as a mere machine.[43]

4. *Crucial Character of the Question.*

The question of mechanism or determinism takes a wide range and is crucial in the relation of Christianity to false evolutionism. The reader sees why we have all along pointed out the fallacies of this world-view. But we must go deeper into the matter. In a rough way we may schematize the chief views thus: (1) mechanism,

[43] What is the Behavioristic Psychology? It is that view of the soul, which, as says Prof. J. B. Watson, of Johns Hopkins University in his book on the subject, has "no discussion of consciousness and no reference to such termms as sensation, perception, attention, will, image and the like." No 'consciousness,' no 'perception,' no 'will,' etc.!! "I have tried to write with the human animal in front of me." In short the 'behavior' of a Newton is of the same order as that of a dog in circling around before it lies down. No wonder that the popular name for such stuff is **dog-behavior** or **muscle-twitch** psychology. But, as say the eminent French authorities, Delage and Goldsmith: "Que devenait, en effet, si l' on acceptait le nouveau point de vue, l' idée de libre arbitre, base soi-disant indispensable de toute morale? Et où chercherait—on un guide pour la conduite humaine si on reconcait à la conception spiritualiste?" **(op. cit. p. 6).**

determinism, materialism; (2) vitalism, as ordinarily understood, a functional, controlling force, or entelechy; (3) Psychological Vitalism, or Personalism, the doctrine of a real, substantial, abiding self. These correspond to the three realms of matter-force, plant and animal life and man created in the image of God as found in Genesis I and throughout Scripture. The relation of the third, or the true view, to the other two may be stated thus: the mechanist analyzes the living cell into chemical elements, whereas the vitalist conceives it as organic unit and studies its functions in circulatory adjustments. They are accordingly in sharp antagonism, the former regarding everything as mere non-living force, the latter predicating a vital energy, or entelechy. The vitalist ordinarily postulates causality in physical events, but abandons it in the case of organisms. The mechanist or determinist construes all phenomena, mental, religious, spiritual as well as physical in terms of physics and makes of man a mere machine, an automaton, a mannakin. The scientist postulates a universe of invariable law, a rigid determinism, and yet inconsistently enough, considers himself a free agent. How he can hold that he is a free agent he has never explained.

5. *The Solution.*

The solution lies in the recognition of the fact that man is and must have been from his creation in the image of God a relatively free, self-determining agent. "If man is merely a part of nature, subject entirely to nature's law, then the realities of the higher life—love, self-sacrifice, devotion to ends beyond ourselves—must be radically reinterpreted or regarded simply as illusions. But it is also true that from this stand-point science itself is an illusion. For if reality lies only in the passing impressions of our sensible nature, the claim of science to find valid truth must end in the denial of the very possibility

of knowledge" (Alexander, *Christianity and Ethics*, p. 84)."

E. Did God Create the Universe in Time or in Eternity.

(A) THE DIVINE PLAN FROM ETERNITY.

That God from eternity had a plan in the creation of the world is not disputed by one who regards God as the Supreme Personality. The question whether the universe was created in time or in eternity is fundamental in determining the relation between creation and evolution.[45] In the current doctrine of evolution it is difficult to discover any definite plan or goal, even though some sort of design be allowed in the cosmic processes. Man is only an animal, indeed merely an accident. In the Biblical system, all world-history leads and is designed to lead to the establishment of a Kingdom of God upon earth (Eph. 1:4. 10; I Cor. 2:7). God's world-plan is eternal, formed before "The foundation of the world" (Eph. 1:4).[46] Much is implied in this, chiefly that all things visible and invisible came into existence through the creative word of God. Under the Biblical view one must reject the idea that the universe is eternal or that

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[44] Note the phrase 'relatively free.' God only is absolutely free. Freedom in the case of man means simply the power of choice, and not an entrance into the metaphysical realm. It is here used in a psychological and ethical sense. God's absolute freedom is not caprice, but is grounded in His self-affirming holiness, love and justice.

[45] We speak of the physical universe in implied contrast with a spiritual universe of angels and archangels created prior to or contemporaneously with the physical universe.

[46] The Greek for 'world' here is **cosmos**, denoting a world in space, not **aeon**, a world in time. Cosmos and Aeon occur frequently in the New Testament, each with a two-fold meaning. Cosmos is a space-world, but by an easy transition it comes to mean sinful human nature, John 1: 29; 3:16. Aeon, a cycle, yielding the Latin **aevum**, denotes duration, as in Luke 1:70; Acts 3:21. Aeon represents the world in process of becoming and lends support to the view referred to below that in the billions of years since creation there may have been successive cycles or ages in the history of the universe.

God created it in eternity. There is a difference in the divine as in the human sphere between a plan and its execution. Some parts of God's plan, as the conversion of the Jews and the universal proclamation of the Gospel, have not yet been realized. It was seen above that materialists, mechanists and atheists hold that matter-energy, atoms, electrons are eternal in and of themselves. Here the question is, Did God create the world in eternity. It is the most baffling of all questions and has an important bearing on evolution.[47]

Apart from scientific and philosophical arguments that the world has always existed, some eminent theologians have entertained the view of an eternal creation. Origen assumed an eternal creation of countless worlds, some before, some after ours.[48] He conceived that God could not be inactive. Modernists in claiming that God created the universe in eternity have not in principle advanced beyond Origen. From the time of Spinoza, the newer philosophy and theology have tended more and more to the view of an eternal creation; and naturally so, for, in the Spinozistic and latest "modernist" philosophy and theology, God, man and the universe are one; hence

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[47] The reader recalls the four Kantian antinomies, formerly discussed only in philosophical circles, but at present fraught with practical interest. Kant showed that the human reason can prove the following contradictory proposition: I. That the world has a beginning; That it has no beginning; II, That there is only simple substance in the world **(nichts als das einfache)** and that there is no simple substance **(nichts einfaches)**; III, That there is absolute freedom of causality in God, and that there is no freedom, but only laws of nature; IV, **Thesis,** A Necessary Being in the universe, **Antithesis,** No Necessary Being in the Universe. We direct attention to Kant's exact language in the antithesis of Antinomy III: **Es ist keine Freiheit, sondern Alles in der Welt geschieht lediglich nach Gesetzen der Natur.** E. Caird summarizes the first antinomy thus: "The reasoning is that we necessarily determine the world in space and time as limited in extension, yet with equal necessity we remove the limit and relate it to something beyond, which in its turn must be related to something beyond and so on, **ad infinitum" (The Critical Philosophy of Kant,** II, 45).

[48] Erigena in the middle ages, Quenstedt, Rothe, John Caird, Pfleiderer and others in modern times have held this view.

the eternity of the universe is assumed; so, too, in false evolutionism.

(B) CHIEF ARGUMENTS FOR ETERNAL CREATION.

The reasons assigned for an eternal creation are chiefly of a philosophical character and must be met on philosophical as well as theological grounds. What can be the meaning of the proposition that God created the universe in eternity? If the meaning be that God from eternity purposed to create, there is no dispute. The objection, however, takes the form that not only the plan, but its execution took place in eternity. A common form of the argument is that of Rothe, who held that God in positing his ego, or self, must of necessity have posited the not-self, which is identified by him with matter-force and regarded as eternal. Possibly the strongest statement is found in Von Hartmann and Hegel. The former wrote: "It is absolutely inconceivable that a conscious God should wait half an eternity content without a good that ought to be." The latter said: "Without the world God is no God."

These arguments, however, are met by the common Christian view that the persons of the Trinity in their communion with each other were from eternity self-sufficient and needed not to create, and by the contention that the aeons, or time-worlds of Scripture ("aeons of the aeons," Gal. 1:5) support the claim that many such worlds existed before ours billions of years ago. The immensity and prodigious age of the universe, prove at least that trillions of years must be allowed for the earliest stellar systems. But says Ward: "No theist can pretend that the world is co-ordinate with God; the divine transcendence is essential to the whole theistic position" (*Realm, etc.*, p. 243).[49]

[49] According to theism, "the physical world is simply a system of means provided for the sake of the realm of ends. . . The existence of the

(C) ARGUMENT FROM ETERNITY AND TIME.

The theory of an eternal creation hinges largely on the question of eternity and time. Time, as ordinarily defined, is duration measured by succession; eternity is infinity in relation to time. God is not in time, but time is in God; there is, however, logical succession. Just as in mathematics, no finite series equals infinity, so no amount of time equals eternity. Newton in a passage in the *Principia* says that God "by existing always and everywhere constitutes duration and space. Space and time are not entities, but manifestation forms of God; otherwise there would be more than one Absolute. In short eternity is a category different from time. God's timelessness does not forbid his creating time and space worlds.[50]

(D) ETERNAL CREATION IN RECENT PHILOSOPHY.

Recent philosophy in endeavoring to mediate between Christian theism and Spinozistic pantheism is involved in a dilemma. Thus we read: "The statement that time had a beginning is self-contradictory, since a beginning implies a time before that beginning" (J. A. Leighton, *Man and the Cosmos*, p. 496). This argument was met already by Augustine on the principle that the world was created "not in time, but with time" (*non in tempore, sed cum tempore*). It was discussed fully by J. A. Dorner, who remarks: "If time existed before the world, God must have existed in time. Time indeed is no mere subjective notion. It is the standard for measuring succession. . . . When the actual world comes into existence,

material world . . . is not indispensable for God" (Ward, p. 252). Hegel's view made God dependent upon his creation—a palpable absurdity.

[50] J. Royce: "To God the universe is **totum simul**, as to us any succession is one whole" (**The World**, etc.). To God "a thousand years are as one day" (2 Peter 3:8). J. Caird; "That which connects events as succeeding each other in time must itself stand above the succession or stream of events."

actual time comes into existence" (*System of Christian Doctrine,* II).[51]

Again "Creation must be the endless expression of God's eternal activity and, hence an eternal process" (Leighton, p. 496). On the contrary creation was a calling into existence of that which before was not. "Eternal creation" is a contradiction in terms, like a square circle. In regarding it as "eternal" the idea of creation is destroyed, said Strauss.[52]

Dr. W. R. Matthews wrestles with the problem, but so far as can be discerned in his twenty-page discussion, he "straddles" admirably. On page 202 (*Studies in Christian Philosophy*) we read: "What is inconceivable and without the support of any religious interest is the notion that there was a time when God did not create." We read also: "The religious interest behind the idea of creation is the affirmation of the thorough-going dependence of all things upon God....If we reject the theistic hypothesis and refuse to distinguish between God and the created order, we shall undoubtedly be unable to think of creation without involving ourselves in contradiction" (pp. 198, 208). To synchronize God and the world is pantheism.[53]

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[51] Dorner surmounts the difficulty by the conjecture that the present temporal world is midway between two eternal worlds.

[52] Leighton continues: "The world cannot be spatially outside God, nor God outside the world." This is correct, for God is Spirit (not a spirit," as incorrectly rendered in John 4:24), Absolute Spirit without bodily parts. Nothing prevents our holding that God was prior to the material universe. Underlying the idea that God cannot be "outside the world" is the pantheistic conception that God must be viewed in terms of space and geometry. God as Spirit is everywhere. "If I make my bed in Sheol, behold thou art there" (See all of Ps. 139).

[53] Dr. Matthew's argument (p. 209) that "the higher we rise in the scale of the subject-matter within which the will is exercised the more persistently does freedom enter into the end which is willed and form an essential element in it" leads logically to the conclusion that the ethically absolutely free will of God does not prevent creation in and with time. "The absolute self must have both a deeper-than-temporal and a temporal consciousness, since by itself the temporal involves incompleteness . . .

(E) INADEQUATE VIEW OF GOD AT BOTTOM OF THE THEORY OF ETERNAL CREATION.

Much of the confusion of thought on eternal creation arises from an inadequate conception of God. God is neither the Substance of Spinoza nor the all-working Energy of Spencer, but the Absolute Personal Reality in Himself, apart from the creation of finite spirit and matter. To regard the world as an eternal creation or evolution of God is first emanationism and then pantheism, or worse. Advocates of eternal creation are open to the charge of J. McCabe, translator of Haeckel, that their view makes God merely "a principle in Nature and not distinct from it."

(F) CREATION OF MAN.

The hypothesis of eternal creation encounters its greatest difficulties in the case of man. If all creation took place in eternity, man comes under the same law, and is not a temporal but an eternal being. But this is impossible, for man exists in time. According to Scripture man owes his origin to a definite creative act of God. As, however, creation is inscrutable, the account is an accommodation to human modes of speech. As to the Genesis narratives two extremes are to be avoided: the literalistic and the mythological. Every historical narrative has a literal and an ideal side, a blending of fact and of figures of speech; so here the account, as Dr. W. R. Harper of the University of Chicago used to say, is history idealized. It is not a myth that there were sun, moon, plants, animals, man; these were facts. But in describing their origin there was room for the play of the imagination, and an accommodation to current ideas, as when it is recorded that "God said," thus and thus, which

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Like Royce, the monist, Schiller, the pluralist, teaches that time, in spite of its partial reality, is not all-of-reality; and that eternity is a transcendence of time" (Calkins, **Persistent Prob.** pp. 442, 445).

obviously means not that God spake in the Hebrew or any other language, but that he caused something to take place. The narrative is *historical-symbolical;* that is, it was a fact that man was created in the image of God, but that God literally "formed man of the dust of the ground, etc." is merely a graphic way of describing the material side of man's dual nature.

The point brought out in Genesis 2:7 is that the body was derived from pre-existent material and the soul a creation *de novo* and not an emanation or evolution. The representation does not exclude the idea that the physical part of man was connected with or analogous to other creaturely forms. The "breathing into his nostrils the breath of life," is, of course, an accommodation to the fact that the air sustaining life enters the body through the nostrils and stands for the imparting of the life principle in man. "The spirit and soul of man....are a gift bestowed expressly and directly by the personal God. The consciousness of this exaltation above the beast is innate in man" (Delitzsch, *Com. Gen.* I, p. 120).

A view somewhat similar to the above is held by Professor G. McC. Price, who writes: "Fortified with this idea [of a divine creation] the Christian is never perplexed by all the confusion and turmoil of modern discussion; for he sees in radioactivity, in biology, and in other ways the steadily accumulating evidences that the whole theory of evolution is crumbling to pieces, and that a literal Creation of all the great primal types of plants and animals, including man, is the only fact left for men who are acquainted with the progress of scientific discoveries in modern times" (*Princeton Theological Review,* Jan. 1925).

As says Dr. D. S. Clark, "It is certain that creation must precede development, and the creation of a germ which may have developed into a man is still creation by *fiat* and doubtless as instantaneous as the most conserva-

tive could wish. There is little to be gained therefore by ridiculing *fiat* creation. Further the record reads that man was formed from the dust of the ground, a fact of which chemical analysis furnishes sufficient witness" (*op. cit.*, p. 200).

F. False Evolutionism and Christianity Irreconcilable.

The result of the foregoing inquiry may be briefly summarized.

(A) What is evolution according to science?

Accurately to define the movement which undertakes to supply the key not only to the riddles of matter, force, life, mind and human destiny, but to all the sciences from geology and biology to psychology, ethics, religion and theology is an impossibility, because, as says a scientist, "Evolution is defined in a score of ways, but *not clearly* in any way. Each one defines it for himself, and no two define it alike" (Kellogg). But such a situation would be unparalleled in human thought and lead to nothing. In Chapter III, the chief definitions are grouped under three heads. The first two (pp. 54-57) are allowable. When people speak of the improvements in a steam-engine as an evolution, we may deplore, but cannot prevent such loose speech; and when men call the growth of an animal from the embryo to the adult state an evolution, there is no objection. In fact this latter was the original use of the term, but through the teachings of Darwin and his followers, the word has been stealthily and cunningly diverted from a legitimate to an illegitimate use and made to cover up unproved assumptions and a consequent false and dangerous philosophy of nature, life and man.

This false view of the term is explained on pages 57-71. Before one can affirm that evolution has been proved it is necessary to come to an understanding as to the sci-

entific usage of the term. The key-words of the new evolutionism are: 'continuity,' 'uniformity,' 'natural law,' 'identity,' 'a change from one kind to another kind, from the homogeneous to the heterogeneous by means of resident forces,' 'a transformation of germplasms,' in short creation is evolution and evolution, creation. These key-words mean that the continuity is not merely within a circumscribed field, but includes the whole physical, mental and religious world from primitive nebula, atom, electron, to the plant, animal and man. All is the result, not of divine creation, but of forces resident in nature from eternity. Nothing is extrinsic or supernatural. There is no point at which one can say: "This is not a natural process" (Huxley and other scientists). Accordingly, God never enters the sphere of human history, even in the incarnation and the resurrection of Christ. There is no supernatural order anywhere. The thousands of Christians who believe that God hears and answers prayer are laboring under a childish and superstitious delusion, being bound by the absolute invariability of natural law.

Then, again, evolution is a change from one kind to another kind, from the homogeneous crystal to the heterogeneous plant, in face of the fact that science itself tells us that everything is produced *"after its kind"* (Conklin). Then, to add to the absurdity of the whole matter, we are told that evolution is creation and creation evolution, and not merely the masses, but presumably educated and thinking men swallow it all as true gospel. The knowing teachers of science, like the augurs of old, must laugh in their sleeves, at their success in hoodwinking a half-asleep Christian public (some ministers included).

(B) EVOLUTION AS AN ALL-INCLUSIVE PRINCIPLE.

That the current evolutionism professes to be an all-inclusive principle incompatible with the Biblical doctrine of creation is the uniform teaching of science. We

read: "Cosmic evolution and organic evolution, the growth of suns and stars, of earth and plant, and man, are continuous parts of one process,....different phases of one continuous, all-pervading process of creation.... Evolution, based on permanent natural laws" (Patten). A New York psychologist writes: "Freedom of the will has been knocked into a cocked hat and such *things* as the soul, God and immortality are merely mistakes of older psychologists" (J. B. Watson). A professor in Columbia University is quoted as teaching that "man is a mere accident [he certainly is on evolutionistic premises]", "immortality a sheer illusion" and that "there is practically no evidence for the existence of God" (I. Edman). We give that professor credit for candor in following the damnable evolutionistic postulates to their logical outcome.

That evolution in the current sense has not been proved and so cannot be a world-wide, universal principle has been abundantly established in the preceding pages.

(C) BANKRUPTCY OF EVOLUTIONISM.

The collapse of false evolutionism is now admitted in high scientific circles. The leading geneticist in the world declares: "We read his [Darwin's] scheme of evolution as we would those of Lucretius or of Lamarck... We are just about where Boyle was in the seventeenth century" (Bateson). Bateson's conclusions according to a professor of science in the University of California, afford "an illustration of the bankruptcy of present evolutionary theory." Dr. D. H. Scott in a Presidential Address before the British Association for the Advancement of Science, says: "All is again in the melting-pot," and asks "Is evolution, then, not a scientifically established fact? *No, it is not*....It is an act of faith—because

there is no alternative." There is, in natural science, says Scott, "a return of pre-Darwinian chaos."

A professor of science writes: "The whole battle-ground of evolution will have to be fought over again, this time not so much between scientists and theologians, as between scientists themselves" (p. 224 above). Dr. Etheridge, Fossilologist of the British Museum, writes: "Nine-tenths of the talk of evolutionists is *sheer nonsense* not founded on observation and wholly unsupported by facts. This museum is full of proofs of the utter falsity of their views." If there are no proofs of evolution in the British Museum, the largest institution of the kind in the world, it is not likely that there are any elsewhere. Dr. Fleischmann, Erlangen, writes: "The Darwinian theory has not a single fact to support it,....is purely the product of the imagination," Dr. B. Kidd says: "Darwinism is a compound of astonishing presumption and incomparable ignorance." See preceding pages for cogent proofs to the same effect.

Recently two eminent scientists, one English, the other German, have voiced similar views. Professor L. T. Hobhouse, University of London, writes: "The appearance of an upward process in evolution then was illusory. It was due to the human observer, who could not see clearly beyond the segment of the whole curve on which he himself happened to be placed....If we take specially favored races and epochs of the past for comparison, there is not the slightest proof of any advance in average human faculty" (*Development and Purpose*). If there has been no advance in historic times, by what logic can it be shown that there was "advance" in pre-historic times?

Hans Driesch, author of a dozen scientific works, exhaustively discussing biological evolution, comes out boldly as follows: "So it follows that almost everything has

still to be done; for no hypothesis at present accounts for the foundation of all systematics, viz. for the differences in organization, in all that relates to the so-called types of histological adaptation and adaptedness. What do we know about anything that might be said to bear on the problem? What we know actually about any derivation of inheritance proper, that is about congenital differences between parents and offspring, is *practically nothing;* indeed there are at our disposal only the few facts observed by de Vries or derived from the experience of horticulturists or breeders" (*The Science and Philosophy of the Organism*). Human history, says Driesch, is not a true evolution, but more properly a series of *cumulations* or *accumulations,* as seen, *e. g.* in the various economic systems. Least of all is man an evolution. "There is nothing evolutionary relative to the generation of mankind as such, at least nothing is proved about such evolution. You may call my view pessimistic, but be it pessimistic or not, we are here moving on scientific ground only and have merely to study the probability or improbability of *problematical facts,* and with such a view in our mind, we are bound to say that a true logical and moral evolution of mankind *is not supported by known facts*" (*op. cit.*).

(D) THE CHRISTIAN WORLD-VIEW INTACT.

The collapse of false evolutionism signifies nothing less than an indirect, if not a direct, confirmation of Biblical creationism. The fundamental principle of evolutionism, the so-called law of "continuity,"[54] "identity," "absolute uniformity," a "natural process" from first to last, from star-dust to man, has not been proved, and so, though there be evolution in the good old sense, the current evolutionism breaks down at the three points of the

[54] "Continuity is the backbone of evolution" (Sir Oliver Lodge).

origination of matter-force, life and mind or personality. The chasm between these three realms or spheres has not been bridged by any doctrine of evolution thus far propounded, but is bridged in the several creative acts of God. Matter-force never becomes life, and mere life never becomes mind. As says Howison: "We have reached the proof that what is most distinctively meant by Man *is not*, and *cannot be*, the result of evolution. Man, the spirit, man, the real mind, is not the offspring of Nature, but rather Nature is in a great sense the offspring of this true Human Nature" (*op. cit.*, p. 48).[55]

[55] Howison says elsewhere: "Ministers of religion nowadays say, 'The evolution of man is well enough, if biologists will only leave us a Personal God at the beginning of the process.' But that if, when conjoined with that consequent, is an if of tragic meaning: the Power behind evolution, were the whole of man evolved, could not be a personal God—in short would not be a God at all. For it is the essence of a person to stand in a relation with beings having an autonomy, in whom he recognizes rights, toward whom he acknowledges duties" (p. 52). Ponder over this, all ye who worship the goddess Evolution.

EXCURSUS.

SCIENTIFIC FAITH, OR, ASSUMPTIONS, PRESUPPOSITIONS AND POSTULATES OF SCIENCE.

Science has unearthed a vast number of facts in the realm of nature. No one disputes facts. It is the interpretation of the cause of facts and their bearing on life, religion and theology which is at the bottom of the confusion of thought to-day. We propose here to inquire, with what facts or assumptions science, natural science, starts, how it reaches conclusions as to uniformity of natural law, the conservation of matter and energy, the dictum of *continuity* in all the stages of the history of the universe from the primitive nebula to plant and animal life up to man. This is necessary if a solid foundation is to be laid for a consideration of the bearing of current evolutionism on Christianity.

1. *Boasts of Science.*

Science boasts that it starts with facts as over against philosophy and theology, which, it is alleged, start with mere ideas or concepts having no objective validity. Thus Prof. R. A. Millikan, of the California Institute of Technology, writes: "The purport of science is to develop without prejudice or preconception of any kind, a knowledge of the facts, the laws and the processes of nature." We propose to show that the affirmation that science proceeds "without prejudice or preconception of any kind" is false and that science, no less than philosophy and theology, starts with axioms, assumptions and postulates.[1]

[1] An axiom is a self-evident or universally accepted truth, as two and two make four. An assumption is something taken for granted for the sake of argument. A postulate is "a demand that something be granted

The facts of the threefold revelation of God in nature, man and Scripture, are, properly interpreted, in harmony and complementary, the one to the other. Hence, science, the truth derived from nature, the speculations of man on the universe, and theology, the universal science, or the doctrine of revelation concerning God, man and nature must go hand in hand. "Let us have a criticism of the categories of science, but let us avoid the dogmatism of asserting that the scientific unification of science has reached its limits" (J. A. Thomson, *The Bible and Nature*).

2. *What Ministers Know of Science and Scientists of Theology.*

It is unfortunate that the average scientist knows as much about theology as the average minister about science, and that is not much. College professors of science and philosophy profess to teach science and philosophy pure and simple, without any religious or theological implications, and consider their obligations discharged when they explain the action of atoms, ions, electrons, of force or energy, of the constitution of the globe in its various geological strata, or describe the idealism of Plato, the pantheism of Spinoza, the panlogism of Hegel or the evolutionistic hypotheses of Darwin, Spencer, and others, meanwhile in many cases leaving on the mind of the student a somewhat cloudy impression of the significance of it all.

At the same time it is difficult for the scientist to refrain from observations on the origin of the world and the nature of matter, life and spirit, questions of a dis-

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without proof," as the scientific assertion of the universality of natural law. "When you assume a premise without demonstrating it, . . . this is an assumption valid relatively, . . . but not valid absolutely; if he [the learner] is reluctant or adverse, it is a postulate" (Grote, on **Aristotle**). An hypothesis is a provisional conjecture, a proposition not proved, but assumed for argument.

tinctively philosophical and theological character. A number of years ago, the writer, while attending the University of Chicago, heard a British scientist deliver a series of lectures on geology. He assured us at the outset that the course would be confined strictly to geology without trespassing on contiguous territory. As a matter of fact, nearly all of the last lecture was devoted to the elaboration of an altogether unique and one-sided hypothesis on the origin of the universe, plants, animals, and man. Even scientists present considered the whole procedure not only a breach of propriety, but an unwarranted attack on rival and possibly better supported hypotheses.

The average college graduate of recent years comes from his scientific and philosophical studies either with a half-digested system of truth and error, or often with a naturalistic, pantheistic trend and bias, though occasionally, his early religious Y. M. C. A. training and experience save him from the logical consequences of his science and philosophy.

A. Assumptions and Presuppositions of Science.

It is evident that there can be no progress in reasoning if every statement or proposition may be challenged. In order that men may reason at all, there must be one or more ultimate or fundamental truths which all alike accept as starting-points. Look at some of these presuppositions of science.

(a) Metaphysical Concepts.

Science starts with a dozen or more assumptions that are purely metaphysical. Prof. Alexander Winchell writes: "All the fundamental conceptions of science, self, substance, cause, force, life, order, law, purpose, relation, unity, identity, continuity, evolution, natural selection, species, genus, order, class are purely metaphysical con-

cepts" (quoted by Hoffman, *Sphere of Science*). Whenever we attempt to classify the data of science, we assume certain categories of thought and being.[2]

(B) SYSTEMATIZED FACTS.

Science must start with inner facts before it can reach the facts of the outer world. I am more certain that I exist than that yonder tree exists. Before facts can be used scientifically they must be critically examined; they must be systematized facts. No mere accumulation of observations nor abstract theories constitute science. The alleged facts must be capable of verification or at least of verifiability. Mere individual experiences that could not be repeated by another have no place in science. "Most of the knowledge that the average man possesses is of little value for science, for the reason that it is of such a character that it cannot be re-examined." Such is the criticism to be made upon a great deal of modern thought—there is a lack of proof or desire for proof; and so, unproved assertion passes for truth or science.[3]

(C) EXISTENCE OF THE SELF.

Perhaps the first datum or fact upon which the scientist builds is his own existence. He does not stop to prove that he exists; he assumes this as a primary fact of consciousness. This consciousness of the self, the Ego, is

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[2] "The terms of science are conceptual formulae. We talk glibly of matter, energy, ether, atoms and so on, but these are intellectual counters, rather than the realities themselves" (J. A. Thompson). "Science begins with abstractions and with every step in advance becomes more abstract. Reality is never found in a scientific system, except that the system as a mental construct is real" (G. A. Wilson, Syracuse Univ. in **Phil. Review, May, 1922**).

[3] "The work of science is much more difficult of attainment than those who have not tried imagine, for things are not always what they seem. . . . First make sure of facts, but this is no easy matter. . . . Hypotheses are useful, but they have a tendency to put on the garb of full-grown theories, or even established doctrine" (J. A. Thomson, **Introduction to Science**).

an ultimate fact, and as an ultimate fact it is not susceptible of proof; if it were, it would not be an ultimate. From this it follows that the scientist can distinguish between himself and other objects; unless this be done, science is impossible. We are thus enabled to make the transition to the outer world.

(D) EXISTENCE AND VALIDITY OF LAWS OF THOUGHT.

Every scientist presupposes the validity of the laws of thought. But we must distinguish between a law and a cause. A cause exerts some kind of force; but a law as such possesses no power to accomplish anything. Laws only tell us how a cause acts or is supposed to act. When we speak of physical law we refer to some observed way of physical energy. As no human being or any number of human beings can ever observe all the processes of nature, the so-called laws of nature must ever be viewed as more or less accurate formulations of truth. Remarking that no scientific law can be more than approximate, H. Poincare writes: "When therefore a scientific theory pretends to teach us what heat is, or what is electricity, or light, it is condemned beforehand; all it can give us is a crude image. It is therefore provisional and crumbling....To-day theories are born, to-morrow they are fashion, the day after to-morrow they are classics, the fourth day they are superannuated and the fifth day they are forgotten" (*The Value of Science*).

(E) ASSUMPTION OF SUBSTANCE AND ATTRIBUTES.

Not only the philosopher and the theologian, but the scientist, assume substance and their attributes. Every substance manifests attributes and it is by means of attributes that men seek to get back to the underlying substance. We study the phenomena of nature and mind and infer that there is mind, soul, personality, God. We examine the qualities of things with the view of estab-

lishing a theory of substance. If we discover attributes we conclude that they are attributes of something. Attributes would have no existence apart from the substance back of them. The scientist does not stop to prove that such an object as a grain of wheat has substance and attributes; he assumes them, and he further assumes the identity of the substance with itself yesterday, to-day and to-morrow. If everything were in constant flux and flow, if nothing were static, according to Heraclitus and pragmatists, if everything were in constant change, there could be no definite conclusion as to anything, for we could not know that we were dealing with the same object.

(F) UNIVERSE IN SPACE AND TIME.

Every scientist assumes that the universe exists in space and time. We cannot think of a single event happening which does not take place in time or succession. With the Infinite the law of succession does not hold, for eternity is a category by itself. All things are ever present in the Infinite Mind. Nor can we think of motion without space. We assume the categories of length, breadth, thickness. All arithmetical and geometrical computation depends upon the predication of time and space; and all physical forces are computed in mathematical formulae; in fact all such expressions as the law of gravitation, of chemical affinity, of light, heat, electricity, would have no definite meaning, if they could not be formulated in the precise terms of mathematics.

(G) UNIVERSE THE PRODUCT OF MIND.

Another postulate is that the universe is the product of mind and not the result of chance. To be sure some scientists and speculators hold that the universe had no origin, but is an evolution from eternity through the agency of some unknown energy; but this view is pure

assumption and exceptional; besides, scientists in general ignore it and take it for granted that, since it requires mind to discover the laws of nature, it requires mind to ordain them. Law implies a law-giver and the more intricate and profound the law, the wiser the law-giver. Some hold that the universe exhibits mind, but that such mind is immanent, and impersonal; but this is a contradiction in terms, for mind, if the term is to have any definiteness of meaning, implies personality capable of distinguishing self from other selves and things. Atoms and electrons have no such power. Hence an Eternal Person back of cosmic processes.

(H) PRIMARY DATA OF SCIENCE DERIVED FROM INTUITION.

Before the scientist begins to classify and systematize he must gather the necessary material, and this is done through the mind's connate power of thought and perception, supplemented by the evidence of the senses. "All sensations are results in consciousness that are immediately apprehended by the mind without any prior mental acts. The objects of the external world that we come to know through these sensations furnish the material for the physical scientist. And the immediate knowledge that the mind has of itself, and its acts and states, furnishes us the elemental subject-matter of other departments of science" (Hoffman, *op. cit.*). Without entering upon the old discussion whether the greater half of knowledge comes from intuition or from sensation, we may remark that the scientist does not prove that he has a mind, certain intuitive powers of thought and observation, but proceeds at once to apply them.

(I) MEMORY AND REFLECTIVE THOUGHT.

The scientist also assumes that he has memory, and that it will serve him truly. Even if man acquired the material of knowledge through sensation and intuition, it

would be like a fleeing shadow unless he had the power of retaining it. Even if it were retained, it would be of little value, if it could not be reproduced and employed in new relations. "Without memory, observation and experiment can ascertain no fact, reasoning reach no conclusion, experience can accumulate no knowledge; for knowledge of this moment would vanish irrecoverably in the next."

But even acquiring and reproducing the objects of knowledge is not science, but acts of the mind preceding science. The scientist takes the facts reposing in consciousness and discerns more definitely what they signify. That is, he seeks to bring the facts under general laws, and this alone constitutes science.[4]

B. The Scientific Method.

We hear much of the superiority of the scientific method, as over against the method of theology. What is the scientific method? Is it a totally new instrument of acquiring truth, or is it an old method somewhat modified?

Since the time of Aristotle, there have been two chief methods of science, the deductive and the inductive, or the *apriori* and the *aposteriori*. In the deductive method we argue from the general to the particular, in the inductive, from the particular to the general. However useful may be empirical knowledge, it is yet of slight importance compared with the well-connected and perfectly explained body of knowledge which constitutes an

[4] Prof. John Dewey, the pragmatist, writes: "If a scientific man be asked what is truth, he will reply — if he frame his reply in terms of his practice and not of convention — that which is accepted upon adequate evidence. And if he is asked for a description of adequacy of evidence, he certainly will refer to matters of observation and experiment" (**Essays in Experimental Logic**, p. 63). But see note from Pillsbury below. Sir Oliver Lodge deplores the tendency of science "to take refuge in rather vague forms of statement, and to shrink from closer examination of the puzzling and the obscure" (**Continuity**, p. 111).

advanced and deductive science. It is in fact in proportion as a science becomes deductive and enables us to grasp more and more apparently unconnected facts under the same law that it becomes perfect. (Jevons, *Principles of Science*).

(A) THE SYLLOGISM.

All true reasoning consists of three parts: the major premise, the minor premise and the conclusion, together constituting a syllogism, either formally expressed or implied. As a matter of fact the three parts of a syllogism are rarely expressed in so many words in the actual affairs of life; but they are implied in such a simple statement as 'John Smith is mortal,' which is equivalent to saying: All men are mortal; John Smith is a man; therefore, John Smith is mortal. The cheap wit of half-educated persons about the uselessness of the syllogism is at the bottom of not a little false reasoning. "The major premise of a deductive syllogism may be a universal principle like an axiom in mathematics, or a generalization from concrete facts, but in either case the way of reasoning about it is the type of all reasoning" (Jevons).[5]

(B) RELATION OF INDUCTION AND DEDUCTION.

The relation of induction and deduction may be stated as follows: "In a certain sense all knowledge is inductive. We can learn the laws and relations of things in nature only by observing those things. But the knowledge gained from the senses relates to particular facts,

[5] The word logic is used in a wide and a narrow sense. It is "either (a) the science which directs the operations of the mind in the attainment of truth or (b) The science which treats of the conceptual representation of the real order. The former is the kind usually studied in college; it does not aim to go back of the phenomenal order of things. It accepts them at their face value. The latter kind inquires into the correctness and legitimacy of the conceptions formed of the real world back of the phenomenal order. Such is the aim of the Hegelian logic which would identify the world of thought and the world of reality on the principle that the real is the rational and the rational the real.

and we require some process by which we may ascertain the law or laws governing them....All reasoning rests ultimately upon the principles of deduction. This is often overlooked....I call in question the existence of any method of reasoning which can be carried on without a knowledge of deductive processes. There is no mode of ascertaining the laws which are obeyed in certain phenomena, unless we have the power of determining what results would follow from a given law....A person who enters a labyrinth must either trust to chance to lead him out, or he must carefully notice the road by which he entered. The facts of experience are a labyrinth of particular results; we might by chance observe the law, but this is scarcely possible unless we thoroughly learn the effects which would attach to any particular law" (Jevons).

In short, even when we gain the results of induction they would be of no use unless we could deductively apply them.[6]

(C) WHAT IS INDUCTION.

It is the legitimate inference of universal laws from individual cases. Here is a problem for solution. Experience is limited to a comparatively small number of individual cases. Why are we warranted in saying that 'diamonds are combustible,' when not all diamonds have been examined? The principle is, that when we have discovered the precise quality which produces a certain effect, this quality will always have the same result. Here the pragmatic view that nothing is static or permanent breaks down utterly. The pragmatist must allow the quality of the diamond is stable, or he is unable to establish the law of combustibility.

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[6] "All fact is . . . theorised fact. Of fact entirely free from theory we have no experience; we can speak of it in words, but can form no conception of it. Recognized fact is classified fact" (A. Sidgwick, **The Application of Logic**, p. 231).

The reader will note that here again, science resorts to logic and metaphysics. The process by which we reach the conclusion that diamonds are combustible is purely *abstractive* and a generalization from particulars. The diamonds examined stand for all diamonds, represent a class, that is, universal concepts.[7]

(D) DIFFICULTY OF INDUCTION.

The discovery of universal laws is an exceedingly long and tedious process. "The circumstances which affect the operation of natural causes are so multifarious and their accurate determination surrounded by so many difficulties that the progress of human knowledge is slow" (Joyce). The great question in regard to induction is, When are we warranted in taking some instances that have come under our notice, as accurate representatives of a whole class?

It is an inductive conclusion that all planets move in an *elliptical orbit*. How do we reach this conclusion, since only a limited number of planets have been observed? The only way of reaching a satisfactory conclusion is by falling back on a mathematical and mechanical law. "When it was ascertained that the centripetal and centrifugal forces act jointly on all planets and that the product of this joint action is an elliptical orbit, then the conclusion was *indisputable* that all planets, observed and unobserved, move in elliptical orbits" (Atwater, *Logic*). In other words it must be shown that the series in ques-

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[7] "A philosophy of science is growing increasingly necessary. . . . Owing to increasing specialization, and to the constantly accelerated accumulation of new facts, the general bearings of scientific systems become more and more lost to view, and the synthesis that depends on coexistence of multifarious knowledge in a single mind becomes increasingly difficult." So writes Bertrand Russell in the Preface to H. Poincare's **Science and Method.** Russell regards a philosophy of science specially useful at present on account of the sweeping away of old landmarks through provisional hypotheses and revolutionary methods, even the Newtonian dynamics being "now regarded as doubtful."

tion comes under some universal law, that is, is an *apriori* truth.[8]

C. The Uniformity of Nature.

We are constantly told that all science proceeds on the assumption of the correctness of the principle of the *absolute uniformity of nature.* By what train of reasoning do we reach such a law? How do we know that nature is uniform, the whole of nature throughout the universe? Whence does science get such a law? Is it in the assumption that the universe is a closed system? or, that the universe is fatalistically determined? Or, has God once for all ordained laws and then deistically withdrawn from all control of such laws? We must examine the legitimacy of such law.

The principle refers exclusively to the physical universe and accordingly can have no higher degree of necessity than belongs to the constitution of this natural order. We must suppose that the Power which established the laws can suspend them, if for any reason deemed wise. This distinction may be expressed by saying that the principle of uniformity is physically, not metaphysically necessary.[9]

(a) The Uniformity of Nature as Physically Necessary.

All effects are due to one or more causes. Every agent, moreover, acts according to its own nature and can act in no other way. "Unless an agent possesses free-

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[8] "An idea, if it is a real idea, is always a type. It is made a type by the context in which it stands and by the fact that it has developed out of a mass of experience, not from one alone. . . . Inductions are never complete and so in strictness prove nothing. . . . Most of the proof in induction comes not from the particular as particular; the real value of the instance is as a type, as the expression of a previously established law or principle" (W. B. Pillsbury, **The Psychology of Reasoning**, pp. 201, 238).

[9] Chalmer's view is still quotable: "The laws of nature may keep up the working of the machinery, but they did not and could not set up the

will it must act in a manner not merely in accordance with its nature, but absolutely prescribed by that nature. . . . The action involves a relation to the object acted on, and hence depends not merely on the agent, but on the patient. Thus the very concept of a natural agent devoid of free-will, involves that under the same circumstances, its action will be of the same kind. . . . In other words the uniformity of nature is an analytic judgment" (Joyce). The phrase is equivalent to saying, Nature is nature, or nature is of one and the same form, that is, there is no more in the predicate than in the subject.

(B) THE LIMITS OF PHYSICAL NECESSITY.

Here we enter the field back of nature and its laws. We cannot stop with nature as such and assume it to be *an* or *the ultimate* in and for itself without accepting the philosophy of naturalism, energetic monism or pantheism in one form or another. If, as theists, and above all, Christian theists, we believe in a great First Cause who is a person, we are logically driven to the conclusion that God subordinates the laws of nature to some wise end and is not fatalistically or deistically compelled to carry out without possibility of variation the laws of his own ordaining. The very notion of a First Cause involves as its consequence that He is not merely the cause of all things, but that He continually sustains them in being. Their persistence in being is in fact a continuous providence.

Logically there is no escape from the position that all that takes place, takes place with God's permission or concurrence. Suppose it to be held that some things take place without his permission; then God is not God or su-

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machine" (**Bridgewater Treatise**). "Until we know thoroughly the nature of matter and the forces which produce motion, it will be utterly impossible to submit to mathematical reasoning the exact conditions of any physical questions" (Thomson and Tait, **Natural Philosophy**).

preme. Something is beyond his control. Hence the supposition is false.

(C) LAW AND CONTINGENCY.

God as Creator and ordainer is the unity and source of freedom. If scientists allow that God had any part in the origination of the universe, they must allow the possibility, indeed the probability of his intervention in case human folly threatens to thwart his plan. Freedom is ever grounded in the right use of intelligence; science, however, bound by its iron-clad law of continuity and necessity, has no room for the freedom of God, and yet by a palpable absurdity every scientist regards himself as self-determined. "As to the regularity of nature or the universal reign of law, this never has been, and never can be, empirically established, nor does its denial involve any contradiction; that is to say, it is neither demonstrable nor axiomatic" (J. Ward, *The Realm of Ends*, p. 12). Ward, a spiritualistic monist, is convinced that "mechanism is not the secret of the universe; that, if it is to have any meaning, it must subserve some end."

(D) POSSIBILITY OF GOD INTERVENING IN THE LAWS OF NATURE.

Science holds that interference with natural law is equivalent to denying the stability of the universe. The objection has weight, if we conceive of God as arbitrarily changing nature's laws. Such view is inconceivable. Any modification must be regarded as the entrance of a higher law in order to attain the supreme purpose. The very regularity of nature enables man to direct his course of life."It is one thing to own that occasionally God does in fact suspend his own laws, when the striking manifestation of his power may be for man's good. It is a very different thing to hold that a capricious suspension of law is at any moment likely to occur" (Joyce).

The chief reason why scientists and some modernists

question fundamental Christian tenets, is that, if God were to intervene in nature or human history, the postulate of the invariability of natural law would be endangered. Therefore, before any progress can be made, the issue must be decided. The problem takes two forms; the natural and the Christian theistic.

(E) WHY NATURALISM DENIES DIVINE INTERVENTION.

According to naturalism, represented by Spinoza, Mill, Haeckel, positivistic and pragmatic schools, "the monism of the cosmos.... proclaims the absolute dominion of the great eternal iron laws throughout the universe. It shatters, at the same time, the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul and the freedom of the will" (Haeckel, *Riddle of the Universe*). Haeckel's atheism, though so repellant that most scientists profess to reject it, is at bottom the logical result of the postulates of contemporaneous science. Few scientists venture to come forward with a clear-cut, intelligible theory of the manner in which they reconcile their major premise with Christian theism. Their conception of natural law leaves no room for the God of Scripture.

(F) THE CHRISTIAN THEISTIC FORMULATION OF NATURAL LAW.

Every law as long as it is a law is in the nature of the case invariable, that is as long as the conditions are the same. Otherwise it would not be a law. In this sense uniformity is indispensable. Law not being an entity, but the expression of will, is subject to change, if the will ordering it, should in wisdom and for a supreme end introduce a higher law. The uniformity of natural law is not of such a character as to forbid our holding that God, who in the Christian system is Creator of the forces of nature, may not in great crises modify the forces of nature. God certainly is not the slave of the laws that He

ordained. "The uniformity of nature," of which many make a fetish, is itself an expression of love and wisdom and so may be changed, if need arise.

(G) GOD-CREATED LAWS SUBJECT TO CHANGE.

As seen in Chapter One, the physical universe, its laws and ordinances are the manifestation of the thought of God. The laws of nature, like all laws, are accordingly subject to modification. "A miracle is not a violation of the world-order, but a special act of the ever-present divine will on which that order depends. Laws of nature are simply the habitual modes of God's action, unvarying because of His own wisdom."....God, however, does not directly perform every act of nature, any more than the President of the United States directly attends to trivial acts, though he keeps an eye on what is going on; God attains His end through agencies and laws controlled by Him.

The uniformity in nature is decreed, not by blind force, but by supreme wisdom, as the glory of God and the welfare of man demand. Miracles are therefore rational, credible and necessary. Since the laws of nature have no existence apart from God they are never "broken," but merely "*amended*" from time to time.

(H) ETHICAL NECESSITY.

There is in short a higher than physical law and necessity, and that is a moral, ethical, metaphysical necessity. Beyond the physical we must under any consistent Christian view of the universe predicate a Being or First Cause who will attain his purpose in nature and grace despite the apparently irrevocable laws of nature.

(I) JOHN STUART MILL ON THE UNIFORMITY OF NATURE.

John Stuart Mill was the logician who devoted most attention to a consideration of the reasons which lead scientists generally to accept the rule that nature is ab-

solutely uniform. Unless we adopt this rule, science, he affirms, is impossible. But as Mill is not an intellectualist, nor idealist in philosophy, but an empiricist, he is barred from falling back on *apriori* principles and must depend on experimentation or empiricism.

Mill does not use the term cause, causation in the usual sense, but understands by it mere succession or antecedent in time. The whole process is a succession in time, of before and after. *The cause does not exert any influence on the effect,* he affirms. A cause in short is the same as a condition. "The cause, philosophically speaking, is the sum total of the conditions, positive and negative taken together" (Logic).

(J) COMMENTS ON MILL'S VIEW.

To regard causality as a mere time relation is contrary to all our experience. A thing which begins to exist cannot possibly have its existence from itself, although this is the uniform teaching of the current evolutionism; it cannot be self-created; it must receive existence from something else. Everything that comes into existence must have, not a mere existence in time, but an efficient cause which is the reason why it exists. The Great Uncaused is the sole exception.

Mill's identification of cause and condition is fundamentally false. He holds that we must be cognizant of the *unconditioned* character of the connection, *i. e.*, that it will take place inevitably. But if we are able to affirm that the connection is *unconditional,* we must have proof of some relation of the consequent to the antecedent. But this implies something more than mere sequence.

(K) MILL'S ACCOUNT OF THE PRINCIPLE OF INDUCTION.

Mill's empirical, non-intuitional philosophy cuts the ground from underneath his feet. He has no solid foot-

ing. He cannot appeal to the nature of things, for there is no such thing in his philosophy. For him and his school the sole sources of knowledge are individual sense-perceptions or experiences. The uniformity of nature, Mill admits, is itself discovered "by the loose and uncertain method of simple enumeration." Mill admits that he seems to be arguing in a circle in first contrasting the uncertainty derived from the observance of uniformity, and then teaching that the former is the foundation of the latter. Finally, unless the uniformity of nature be presupposed (*a*) how can we assume that any particular uniformity is of that character? In short, in order to prove this principle, we must presuppose it.

Since (*b*) human experience extends at most only over a few thousand years, and since the records are fragmentary and uncertain, how do we know that there may not be some exceptions to uniformity? If our grounds for uniformity be merely the recorded observations of men, they are as unsatisfactory as ever was any induction by simple observation. In fact, Mill himself allowed that he found no reason why the law should hold good 'in distant parts of the stellar universe.'

(L) NO PROOF OF UNIFORMITY, SAY PROMINENT LOGICIANS.

Later logicians of the empirical school abandon all attempts to prove this principle. Bain: "We can give no evidence for this uniformity." Huxley: "The one act of faith in the convert to science is the confession of the invariability of order and of the absolute validity in all times and at all places, of this law of causation." Even Darwin says: "This confession is an act of faith, because from the nature of the case, the truth of such propositions is not susceptible of proof" (*Life*, II, 200).

In short, to adopt this principle, is to renounce the hope of finding any secure basis for physical science. Well

might Bain speak of it as a "the leap in the dark." Scientists may not reproach theologians for starting with faith, for both proceed in a similar way. Indeed science with its empirical, often pragmatic and behavioristic philosophy as over against the intuitional has less justification for such a course than theology.

(M) JEVON'S VIEW.

The great English logician and scientist, Jevons, writes: "There is no such thing as a distant method of induction as contrasted with deduction, but induction is simply an inverse employment of deduction....Hypothetical anticipation of nature is an essential part of inductive inquiry, and it is the Newtonian method of deductive reasoning combined with elaborate experimental verification which has led to all the great triumphs of scientific research" (*op. cit.*, p. XXVIII).

Again, "We have heard much of what has been called the Reign of Law, and the necessity and uniformity of natural forces has been not uncommonly interpreted as involving the non-existence of an intelligent and benevolent Power, capable of interfering with the course of natural events....It seemed to be not out of place in a work on Scientific Method to allude to the ultimate results and limits of that method. I fear that I have very imperfectly succeeded in expressing my strong conviction that before a rigorous logical scrutiny, the *Reign of Law will prove to be an unverified hypothesis*, the Uniformity of Nature an ambiguous expression, the certainty of our scientific inferences to a great extent a *delusion*." (Jevons).

Jevons adds: "The value of science is of course very high, while the conclusions are kept well within the limits of the data on which they are founded, but it is pointed out that our experience is of the most limited character compared with what there is to learn, while our men-

tal powers seem to fall infinitely short of the task of comprehending and explaining fully the nature of any one object" (p. I). Jevons was professor in University College, London.

(N) KARL PEARSON'S CRITIQUE OF SCIENTIFIC METHOD.

Some false views regarding scientific method are cogently esposed by Karl Pearson in his great work, *The Grammar of Science*: "What are we to say with regard to scientific law? Does it really exist before man has given expression to it? Has the word any meaning when unassociated with the mind of man? I hold that we must definitely answer 'no.'....A scientific law is related to the perceptions and conceptions formed by the perceptive and reasoning faculties in man; it is meaningless except in association with these; it is the *rêsumê* or *brief expression* of the relationships and sequences of certain groups of these perceptions and conceptions, and exists only when formulated by man....There is more meaning in the statement that man gives laws to nature than in the converse that nature gives laws to man" (*op. cit.*, pp. 82, 86).[10]

(O) HOSTILITY OF SCIENTISTS TO NEW DISCOVERIES.

Scientists are wont to affirm that the Church has ever opposed progress. As a matter of fact, scientific discoveries have as often been opposed by scientists as by theologians. Copernicus in the dedication of his book to Pope Paul III says that he had kept it back many years for fear of opposition from rivals. Whewell writes: "It will be observed that he speaks of the opposition of the established school of astronomers, not of divines," His theory was bitterly assailed by astronomers. Lord Ba-

[10] Pearson adds: "How idle it is, then, to speak of the law of gravitation, or indeed of any scientific law, as ruling **nature**. Such laws simply **describe**, they never **explain** the routine of our perceptions, the sense-impressions we project into an **outside world.**"

con rejected it to the end of his life. Whewell says: "Perhaps the works of the celebrated Bishop Wilkins—a divine be it noticed— tended more than any others to the diffusion of the Copernican system in England" (*Hist. Induc. sciences,* I, p. 275). Wilkin's book was published in 1638, nearly a hundred years after the time of Copernicus. So, too, as to the Newtonian system of gravitation, it was opposed by the great physicists and philosophers at the close of the seventeenth century and the beginning of the eighteenth, as Huygens, Bernouilli, Leibnitz, and nearly all the disciples of Descartes.

Even Harvey's discovery of the circulation of the blood was ridiculed by learned men of all professions. Aubrey in his lives of famous men says: "After Harvey's book came out he fell mightily in his practice and t'was believed by the vulgar that he was crack-brained; and all the physicians were against his opinion and envied him." The student of science will recall that the discovery of oxygen was long opposed even by scientists who only with difficulty gave up the old idea of phlogiston. Dr. Jenner's discovery of vaccination was denounced by physicians. The Academy of Paris attempted to overthrow the microscopic discoveries of scientists a century after they were made with the sneer, "one can generally see with the microscope whatever one imagines." The power of involuntary movement, as in the case of a headless turtle, was at first regarded as a dire heresy, by the Council of the Royal Society of England. In short it can be shown that in most cases it was the scientists themselves who led the theologians into a blind alley. Scientists, even to-day, are not quite infallible. As Poincare says, their hypotheses change with incredible rapidity.[11]

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[11] A recent writer remarks: "Have not the decisions of the scientists of one century often been reversed by some new discovery? Does science claim to be alone inerrant in a world of fallible and partial knowledge? Is it just possible that the university has usurped the arrogance of the

D. The Eternal Conservation of Matter and Energy.

Running parallel with the scientific dictum of the absolute invariability of natural law is that of the eternal conservation of matter and energy. The theory is, that, though there is constant change in matter and force, the sum total in the universe is neither increased nor diminished. It is from eternity to eternity the same, the idea of God creating the universe of matter and force being quietly questioned. The general reader and half of the religious and theological world fail to notice that this apparently harmless law, valid enough within certain limits, plays havoc with the Christian system of creation and providence, for whether or not God created matter and force, he has bound himself to an irrevocable law never to change them for any purpose whatsoever—an astounding outcome of contemporary science.

(A) Measuring the Physical Quantity of Energy.

Scientifically defined, energy is the capacity for doing work. How energy can be measured was long a problem for physicists, Count Rumford, Sir Humphrey Davy, Seguin Mayer and others having experimented on the subject. But it was left to Dr. James P. Joule, of Manchester, England, to prove, about 1846 by a series of brilliant experiments, that a certain amount of mechanical energy is equivalent to a definite amount of heat and to formulate the new famous law of the conservation of energy. "He reasoned that if the heat produced by friction, etc., is really energy in another form, then the same amount of heat must always be generated by the expenditure of a given amount of motion or mechanical work. And this must be true no matter what the material." As a result of many experiments he reached the conclusion, later

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old theologies in parceling out what portions of universal truth shall be credited?" (Mary Briarly).

slightly corrected by more perfect apparatus, that 778 foot pounds of work produce heat enough to raise one pound of water one degree Fahrenheit." This law declared valid in all mundane mechanics, is affirmed to hold throughout the universe. It is the latter phase of the subject which concerns us here, primarily.[12]

(B) WHAT IS CLAIMED FOR THE LAW OF THE CONSERVATION OF ENERGY?

The former cocksureness of science is illustrated by Herbert Spencer's declaration of "the experimentally established induction," that matter is indestructible and that any thought of the contrary is "not thinking at all, but merely pseudo-thinking." But almost contemporaneously Lord Kelvin suggested that phenomenal matter is not matter at all, but "non-matter in motion." And now we are told that all is electricity. Though electricity can be measured and retailed to consumers, its mechanism or inner character is not known. With the new view of electricity, its relation to energy becomes still more enigmatic.

In the science of energetics (See *Ency. Brit.*) the working principle is the conservation of energy, but we search in vain for information on the origin, constitution and continuity of energy. Scientists have discovered valuable facts, and have well-nigh exhausted the rich treasures of the Greek language in coining words and phrases to denote purely abstract conceptions, which an unsuspecting public is expected to accept as real entities. A dozen questions at once arise as to energy. Is it material or immaterial, finite or infinite, temporal or eternal, created or evolved, ethereal, non-ethereal, or *etherial*

[12] When seventy-five years ago Helmholtz published his epoch-making work on "**Die Erhaltung der Kraft**," the scientific world was disposed to ridicule the postulate which has since become one of the corner-stones of science — a proof that scientists are not always broad-minded.

(Lodge)? Only a few of these questions can be considered here.

If energy be finite, it can be mathematically calculated; but this would imply that the physical universe is finite. If infinite, the sum total is indeterminate, for no finite series however far extended, equals infinity. In that case the whole problem is transcendent, beyond human investigation. LaPlace with his calculating machine estimated that ultimately the energy in the universe, though conserved, would be disintegrated and the whole universe lapse into icy chillness. Some such result would be inevitable if the universe be a machine, for a machine runs down.

(c) THE RELATION OF MATTER AND ENERGY.

What matter is ultimately, has always been a problem. Are matter and force two distinct entities, or are they fundamentally one? If one, which is the greater half? The old materialism, which regarded matter as prior to and the source of spirit, is dead; but a new materialism in the form of energeticism, which holds that, matter, force, mind, spirit are but different forms of energy, has sprung up and dominates the scientific world.

Helmholtz in his famous memoir wrote: "Both conceptions [pure matter and pure energy] are abstractions; we can in truth perceive matter only through its energies, never in itself." Similarly Professor Tait: "The one [matter] is, as it were, the body of the physical universe; the other [energy] is its life and activity." Apart from energy, matter according to science cannot be known at all except phenomenally. Every physical change or quality of matter is due to energy. This is the new conception of matter. In whatever sense understood, matter is now defined in terms of energy. The discoveries in X-Rays, radio-activity, electricity, atoms, etc., show that the chemical and mechanical properties of matter are but

manifestations of energy. The present-day problem is to determine what this so-called ultimate energy is; whether it has existed eternally, or is a creation of God.

Scientists are coming to believe that matter is made up of electricity and nothing but electricity. "The electrotonic theory accounts for inertia, chemical action, atoms of matter, and their peculiar properties as exemplified in the periodic law, and the phenomena of radio-activity. It also accounts for static and current electricity, for radiations of light, X-Rays etc." Some phenomena, however, remain unexplained. Thus, it is not known what positive electricity is, as compared with negative, which consists of corpsucles.

(D) INTERRELATED QUESTIONS.

The question of the conservation of energy is only one of a series of questions, as the nature of energy, causation, continuity, ether, electricity, and the exploded idea of perpetual motion. Already in 1775 the French Academy of Sciences declared *perpetual* motion impossible and so scientists from Helmholtz to Joule have been unable to find a safe-footing for a universal law of conservation. Joule thought "it manifestly absurd to suppose that the powers with which God has endowed matter can be destroyed." Joule's position is valid over against the mechanistic world view, but implies an *apriori* principle of causality and sufficient reason, which would admit of intervention of a higher law, if occasion demanded.

Even if conservation were proved absolutely it could at most only conserve what exists, but not produce anything new. In transformation of energy the quality is not changed, only the form. Unless the conservation of force can produce life, and mind, the principle so far as applicable disproves pseudo-evolutionism. If the force predicated by science be Spencer's Absolute Force, noth-

ing is gained, for this is an Unknown, of which nothing can be affirmed. It were better to hold with Lotze: "Should the self-realization of the Idea require it, there is nothing to hinder the working elements of the world being at one period more numerous and yet more intense; at another period less intense as well as fewer. Then would the course of Nature be like a melody, not flowing in monotonous uniformity, but with *crescendos* and *diminuendos* as each in turn is required to express the meaning of the whole" (*Metaphysik*).

Nor can evolutionists take refuge in Spencer's intrinsic change of "homogeneity into heterogeneity." As Tait and Stewart say: "In the production of the atom from a perfect fluid, we are driven at once to the unconditioned to a Great First Cause; it is in fine, an act of creation and not of development" (*The Unseen Universe*). The corner stone of false evolutionism, the hypothesis of continuity, is shattered in the very first stage of the world's history, for discontinuity is seen in the origin of life, which has not been produced from the lifeless either by nature or by man.

(E) PSYCHOLOGICAL SIDE OF THE THEORY OF CONSERVATION OF ENERGY.

Under any view of personality (whether it be merely a series of states of consciousness, as pragmatists hold, or an abiding entity) it can initiate thought and move matter, thus overcoming inertia. We can calculate the mechanical equivalent of heat, but unless we can calculate the mechanical equivalent of a mother's love, the law of the conservation of energy breaks down. Even machines delicately constructed to record nervous and mental states cannot supply absolutely correct data or record the sum total of energy in the human mind, much less in the vast universe. The increment of force in mind cannot be mathematically determined, and, so, again, it would seem

that this assumed law is not an absolutely established fact, but at most a working hypothesis.[13]

Whatever the laws of nature may be, they are not facts, but inferences from observed phenomena. Thousands of people saw apples fall, saw facts; but the discovery of the law of gravitation was the result of prolonged and intricate mathematical calculations; even so, mathematicians of rank to-day regard Newton's law as an inadequate formulation of a still more comprehensive law not yet discovered. We speak glibly of law, force, cause, nature, ether, etc., but, as Poincare says, our formulation of facts in the vast universe is at most but provisional. The key to the whole matter is the reconciliation of the antithesis between science with its postulates of a naturalistic (some say, atheistic) continuity, necessity, immanence and conservation and of Christian theism with its principle of a Supreme Being, who, as the author of nature and its laws, subordinates them to his wise purposes.

(F) THE METAPHYSICS OF THE SUBJECT.

The interminable discussion of the nature of energy and its conservation, of atoms, ether, electricity, etc., takes us into the very field formerly tabood by science, namely metaphysics, which deals with the ultimate nature of things. In fact science in passing from the mere

[13] If this law is not absolute and if personality, divine and human, is a self-determining agent, it follows that what are popularly called "miracles," or supposed violations of law, but more correctly the entrance of a higher law, may occur, indeed must occur if the divine purpose in the creation of the universe and of man, is to be attained as over against the free but often erratic human will. "The universal course of things may at every moment have innumerable beginnings whose origin lies outside of it, . . . Where such beginnings are to be found we cannot beforehand say with certainty; but if experience convinces us that every event of external Nature is at the same time an effect having its cause in preceding facts, it still remains possible that the cycle of inner mental life does not consist throughout of a rigid mechanism working necessarily, but that along with unlimited freedom of will it also possesses a limited power of unconditional commencement" (Lotze, **Microcosmus**).

collection of facts to a theory of their inner character, which can be determined only by a consideration of their origin, forces us to scrutinize any metaphysical principle ennunciated by science. With ascertained facts we have no quarrel, but only with false or half-baked theories regarding facts.

Science can tell us how matter, force, gravity act, but it cannot tell us what they are. "Does not science deliberately abstract from the individual and treat it merely as an example of the universal, a junction-point of concepts and laws? Matter, motion, energy, ether, natural selection, gravitation, with their more specific subsidiary formulae—are not all these categories of science purely abstract general conceptions to which the individual is wholly indifferent? (J. A. Leighton, *Man and the Cosmos*, p. 177).

(G) THE PRINCIPLE RESTS ON INADEQUATE DATA.

The alleged principle rests on the empirical logic, which never yields absolute proof, for only a fraction of the facts in the universe can be ascertained. If it were shown that only the one-tenthousandths part of a gramme of matter were lost, the whole theory would collapse. Again, the experimentation is always under chosen conditions of time and place. "No experiment has ever been made, *in situ*, and never can be, whereby the quantity is measured and weighed, the identity as to quantity preserved through the change and the exact quantity again experimentally determined....No man can control change—he himself least of all.....Abstraction for scientific purposes is absolutely impossible" (Wood, *op. cit.*, p. 40).

The most accurate exepriments cannot trace all the stages of growth of a plant and formulate them in mathematical terms; unless this be done no absolutely correct results are possible.

Before reaching definite results we must know what matter, atoms, energy, electrons, etc., really are, must know whether these abstractions of the mind or as philosophers say, our subjective ideas, have a real existence, are objectively real. Furthermore we want to know whether they have existed from eternity or are creations of God. If they existed from eternity as essences and entities, we have at least two eternals or absolutes and possibly three (God, space, and the ultimate chemical or physical elements). But there can be no two absolutes, any more than two kings on one throne. Hence we are driven to postulate either an eternal something, not God, as in pantheism and naturalism, or a Supreme Being, as taught in Scripture. The latter alternative is the only one open to us, and this demands God's free, wise and holy agency.

(H) BASED ON MECHANICAL THEORY OF THE UNIVERSE.

It must constantly be borne in mind that science is committed to the mechanical theory of the universe and evaluates everything in terms of force.[14]

Nature and physical laws are under this view governed from within and admit of no change or modification, from without, and not even from within, for all is a closed system (even mind being merely force and without freedom). Hence the philosophical scientist is driven to regard the law of conservation incapable of change even by deity; it is a monstrous doctrine. "It denies the real difference between living and dead, natural and artificial. It conceives of everything as either identical or homogeneous. It reduces the individual to a phase of the universal. It takes principles applicable to one field and applies

[14] We are not unmindful of the fact that some scientists avow belief in a God, but we fail to discover that they accept pivotal Christian tenets, such as the creation of the world, providence, supernatural intervention and the resurrection of Christ. We have in mind such men as professors Conklin, Osborn, Coulter, Patten, Millikan.

them to another, even though dissimilar....It gives no room for new beginnings in nature and man. It has no room for freedom....It makes the universe unmoral.... It fails to demand a place for a creator, for design, for purpose, and for providence" (Wood, *op. cit.*, p. 50).

The anti-Christian character of such a world-view is seen in John Burrough's bold acceptance of pantheism and naturalism as the only tenable position. Half-educated ministers are constantly ringing the change on liberty of thought. In the current evolutionism and in the hypothesis of continuity, there is no room for thought at all, except as mere force, and of course no liberty of thought, for all is an iron-clad mechanism, without beginning or end, without self-determination or true personality. All this will become clearer in the next section.

(I) SCIENCE AT WAR WITH ITSELF ON CONTINUITY AND CONSERVATION.

One of the laws of physics is that matter and energy are alike indestructible and uncreatable. If this were affirmed merely of this globe, it could not be denied off hand. But we are told that "the universe consists of a definite and unchangeable quantity of matter and energy."[15] Observe that this applies, not merely to the matter on this globe, but to life, mind, spirit, to all that is and "happens in the universe." In short, all is mere force, the Supreme Force, if there be one, included. You say, This cannot be the meaning of scientists, but it is. They hold that force in some mysterious way produced protoplasm, protoplasm produced life, life produced consciousness and self-consciousness, and finally personality, if there be true personality at all.

[15] The above is from Hugh Elliot's **"Modern Science and Materialism,"** ed. 1919, p. 42. As Mr. Elliot is the author of some half dozen books on science and philosophy, including one on Bergson, and one on J. S. Mill, and a translation of, and comments on **"Lamarck's Zoological Philosophy,"** he may be supposed to reflect the trend of present scientific thought on great problem in science.

Such is the logically concatenated and shrewdly constructed system which is deluding not merely the innocent public, but scores of well-meaning, but half-asleep ministers. Scientists chuckle in thus 'putting one over' on the Christian public. We propose to show that this charge that science reduces everything to 'force' is supported by scientists themselves.

Having already seen that matter and energy are convertible terms we proceed to show that they may disintegrate. "The doctrine that matter ultimately consists of disembodied electrical charges appears to many people so inconceivable, and so far removed from common sense, as to be altogether incredible" (Elliot, *op. cit.*, p. 54). But electricity is one form of energy without matter and we are familiar "with other forms of energy which have no material substratum. Such a form of energy is light, which traverses empty space, and works its effect on our sense-organs without any basis of matter whatever."

Recent science in so far as it obliterates the distinction between matter and energy is in a dilemma. The law of motion causes trouble. "All forms of energy may be regarded as motion; and all the phenomena of physics can be represented in terms of matter and motion" (Elliot, p. 58). After all, "energy cannot be regarded as an actual existence or a thing, notwithstanding that it endures permanently....It can pass out of real existence, etc." Then comes a remarkable confirmation of our claim that science as science never gets beyond the empirical; "Reduction of all phenomena to *sense-impressions* is the climax of scientific effort" (p. 60).

(J) ENERGY TRANSMUTED AND LOST.

Science is confronted by the question whether the transformation of energy is in all directions and tends toward a goal. "If transformations of matter and energy are entirely reversible, taking place with equal facil-

ity in any direction, then the universe might be regarded as a permanent existence, in more or less its present form. There would be no reason for supposing that it could ever have had a beginning, or that it would have an end. But if the transformations or the events occurring in the universe, take place on the whole in one direction rather than in another, then there must ultimately be reached, if the process continues, *an end to the universe as we know it;* and by similar reasoning, there must at one time or another, have been a beginning" (p. 61).

But since "transformations do *not* take place equally in all directions"....the universe is running down; and theoretically at least a time may be imagined when it will have run down altogether, becoming still and *lifeless*" (p. 61).

(K) THE GOAL OF SUCH DISINTEGRATION.

Scientists are not agreed whether the universe has a goal. Elliot, however, is convinced that "the goal to which the universe is slowly progressing is a condition in which no further available energy is left." He reaches this conclusion by showing that both atoms and molecules are disintegrating and that for aught to the contrary, the principle applies to the whole universe. "Until recently it was imagined that atoms were characterized by complete permanence and stability. Modern researches in radio-activity have altogether dissipated this belief.... The atoms known to be disintegrating are the largest in the series. The largest atom of all—uranium—is very slowly breaking down, (the electrons being shot into space and lost) to form a smaller and lighter atom, that of radium....The total quantity of uranium on the earth is diminishing, and the most complex of the elements is thus slowly but inexorably vanishing from our planet" (64).

But not only are the elements on earth vanishing,

they are vanishing throughout the whole universe. "The universe is not reversible, it cannot move backwards as well as forwards; it seems to approach an end, when both matter and energy shall have reached their final stage of degradation....Is it to be supposed that even the most primitive atoms are eternally stable?....Suppose that in course of unimaginable ages there occurs some retardation in the velocity of the negative electrons, as indeed occurs with planets revolving round the sun. What would happen then? The same as happens in a solar system, where the planets at length fall in upon their central nucleus of attraction. The electrons would fall in upon the positive nucleus, and there would remain—nothing whatever, *no trace left of either energy or matter*.... Matter and energy would be extinct; the void which remained would be just as though no energy and no matter had ever previously existed" (p. 68).

(L) THE NEW SCIENCE A NEW MATERIALISM.

Elliot frankly admits that the modern principles of science "are in every particular consonant with *materialistic interpretations;* they are in every particular irreconcilable with *spiritualistic interpretations*" (p. 68). We are told that "throughout this new continent of knowledge we find the axioms of materialism as unquestioned as ever....Nor, as we approach the very foundations of existence, do we see any more sign than elsewhere of a purpose at the basis of the universe. Harmony and order, certainly; that arises from the universality of natural law....Even if the universe is running down to a final doom of extinction, there is no suggestion of purpose there" (p 69). No *purpose,* all the result of natural law!!! Think of that, all ye who pin your faith to contemporaneous science and evolutionism.

Elliot, with a logical *elenchos,* an unparalleled "clincher," goes further, saying "there is no place for any

kind of spiritual agency. We know at length what is the basis of matter; it is not spirit [that is, it was not created by God,] it is energy [and yet energy cannot be shown to exist], a factor exclusively objective in character, and residing on the materialistic, not on the spiritualistic plane" (p. 69).

Elliot allows that "materialism is no longer a suitable name for a doctrine which dissolves all matter into intangible energy;" but he is right in holding that when all is said the term materialism best suits the trend of contemporaneous science and that the fundamental antithesis is *spiritualism* (in the true sense) versus *materialism*.

(M) SIGNIFICANCE OF THE INVARIABILITY OF NATURAL LAW.

Our apology for dwelling at such length on these subjects is that an acceptance of the theory of the indestructibility of matter and of the conservation and correlation of energy implies logically an acceptance of the theory of the continuity of natural processes to the exclusion of any intervention of God at any stage of the world history. Nature under such a view is a closed system, closed either by a naturalistic determinism or by a God, who, though having created something, is deistically estranged from the universe and has abdicated all control over the laws of his own ordaining. The statement of Professor J. M. Coulter that "it is all the result of the activities of that all-pervading energy which we have learned to call God" (*Where Evolution and Religion Meet*, p. 101), does not relieve the situation; it is in fact at once a pious platitude and a pantheizing identification of God and an impersonal energy.

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